Access DB# 82330

JAN

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: FONDA Examiner #: 71970 Date: 12-13-02
Art Unit: 1623 Phone Number 308-1620 Serial Number: 09/759371
Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL
↳8B19 ↳8A05
If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

RECEIVED DEC 13 2002 TC 1600

Title of Invention: see attached assignment sheet

Inventors (please provide full names): _____

Earliest Priority Filing Date: 1-16-2001

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search compounds of claim 2 and methods of using them to treat inflammation or immune disorders. See claims 13, 14, and 16 for diseases. Administration can be oral, topical, intranasal, or by inhalation. All claims attached.

Thanks.
Kathleen

RUSH

I've asked Johann Richter to email authorization to you.

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov

****

STAFF USE ONLY		Type of Search		Vendors and cost where applicable	
Searcher:	Jan	NA Sequence (#)		STN	✓
Searcher Phone #:	4498	AA Sequence (#)		Dialog	
Searcher Location:		Structure (#)	✓	Questel/Orbit	
Date Searcher Picked Up:	12/15/02	Bibliographic		Dr.Link	
Date Completed:	12/15/02	Litigation		Lexis/Nexis	
Searcher Prep & Review Time:		Fulltext		Sequence Systems	
Clerical Prep Time:	20 +90	Patent Family		WWW/Internet	
Online Time:		Other		Other (specify)	

PTO-1590 (8-01)

Delaval, Jan

From: Fonda, Kathleen
Sent: Saturday, December 14, 2002 10:27 AM
To: Delaval, Jan
Subject: 09/759,371

Hi Jan. Here are a few comments about 09/759,371 which I hope may streamline your job. Note that the compounds of claim 8 are not within the scope of claim 1, because claim 1 requires a glycoside. Also, US 20010041676 A1 is the patent pub that corresponds to my application. More than likely it has already been indexed by the folks at CA since it was published over a year ago. Thanks for your help. I will be here until 3 on Sat, in case you are in. Kathleen

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov

```
=> fil reg
FILE 'REGISTRY' ENTERED AT 14:28:31 ON 15 DEC 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2002 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   13 DEC 2002  HIGHEST RN 476274-11-0
DICTIONARY FILE UPDATES:  13 DEC 2002  HIGHEST RN 476274-11-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d sta que l34
L12             STR
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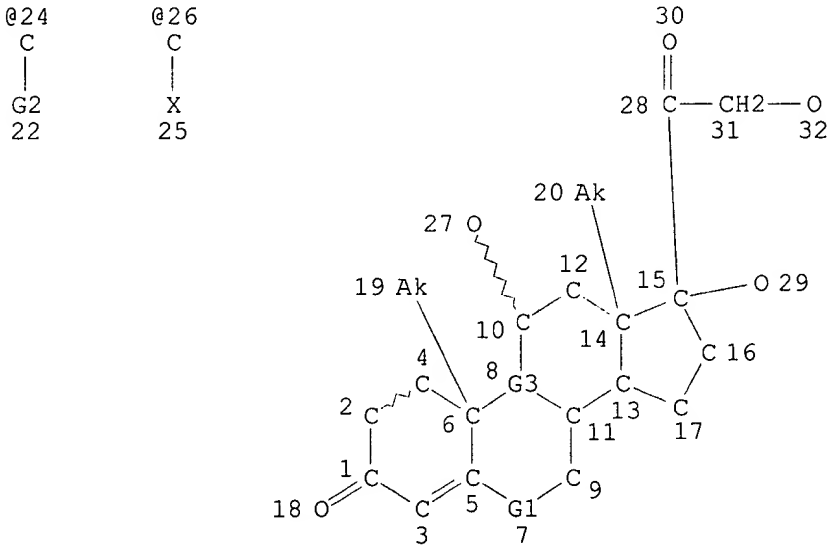


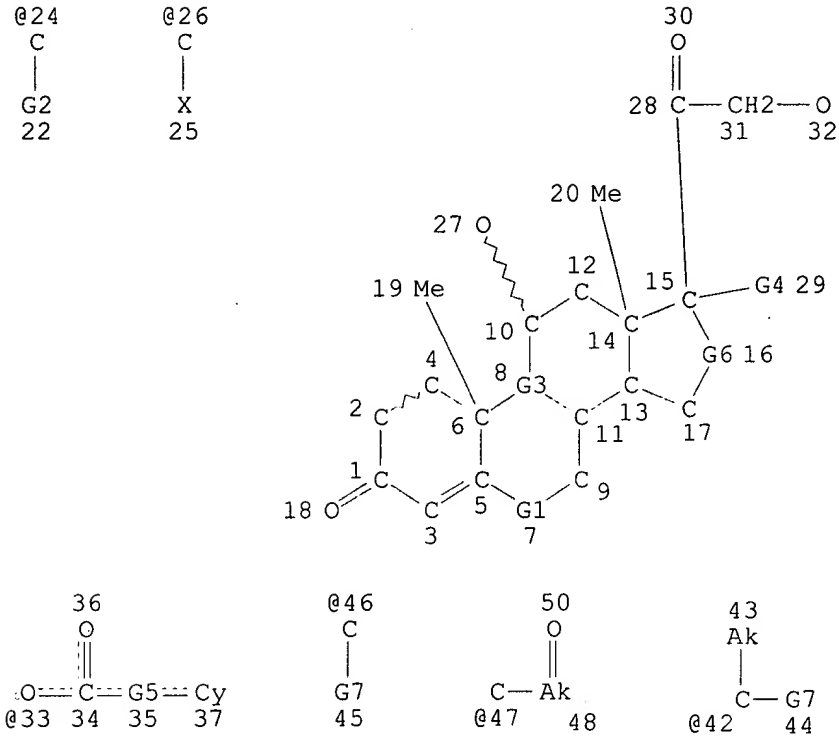

```
VAR G1=C/24
VAR G2=X/AK
VAR G3=C/26
NODE ATTRIBUTES:
CONNECT IS M1  RC AT  16
CONNECT IS M1  RC AT  29
CONNECT IS M1  RC AT  32
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  30

STEREO ATTRIBUTES: NONE
```

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov

L14 5950 SEA FILE=REGISTRY CSS FUL L12
L15 STR



VAR G1=C/24
VAR G2=X/AK
VAR G3=C/26
VAR G4=OH/33
REP G5=(0-1) AK
VAR G6=C/46/42/47
VAR G7=AK/OH
NODE ATTRIBUTES:
CONNECT IS M1 RC AT 32
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE
L16 3653 SEA FILE=REGISTRY SUB=L14 CSS FUL L15
L17 227 SEA FILE=REGISTRY ABB=ON PLU=ON L16 AND OC5/ES
L18 3 SEA FILE=REGISTRY ABB=ON PLU=ON L16 AND OCOC2-OC5/ES
L19 131 SEA FILE=REGISTRY ABB=ON PLU=ON L17 AND 1/NC
L20 42 SEA FILE=REGISTRY ABB=ON PLU=ON L19 AND (N OR S OR P OR SI)/ELS
L21 17 SEA FILE=REGISTRY ABB=ON PLU=ON L20 AND (C41H57NO8 OR C37H54FNO12S OR C56H59NO19 OR C43H66FNO12S OR C34H49FO11S OR C40H55NO8 OR C40H60FNO12S OR C68H109FN6O26S3 OR C43H66FNO12S OR C63H63NO21 OR C39H58FNO12S OR C35H51NO10 OR C40H60FNO12S OR C61H95FN4O25S3 OR C36H52FNO12S OR C40H60FNO12S OR C37H55FO11S)
L22 25 SEA FILE=REGISTRY ABB=ON PLU=ON L20 NOT L21
L23 89 SEA FILE=REGISTRY ABB=ON PLU=ON L19 NOT L20
L24 19 SEA FILE=REGISTRY ABB=ON PLU=ON L23 AND (C30H39FO8 OR C28H36O8 OR C26H37FO6 OR C26H38O6 OR C26H36O6 OR C30H38F2O8 OR C27H37FO6 OR C27H32O8 OR C28H31FO8 OR C26H38O6 OR C28H31FO8 OR

```
                C27H30O8 OR C30H38O8 OR C29H36F2O8)
L25          70 SEA FILE=REGISTRY ABB=ON  PLU=ON  L23 NOT L24
L26          98 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L18 OR L22 OR L25)
L30          96 SEA FILE=REGISTRY ABB=ON  PLU=ON  L17 NOT L19
L31           5 SEA FILE=REGISTRY ABB=ON  PLU=ON  L30 AND (H3N OR BA/ELS OR
                H2O)
L32          23 SEA FILE=REGISTRY ABB=ON  PLU=ON  L30 AND NA/ELS
L33          21 SEA FILE=REGISTRY ABB=ON  PLU=ON  L32 NOT (MXS/CI OR C29H38O8)

L34         124 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L26 OR L31 OR L33)


=> d sta que l44
L12                 STR
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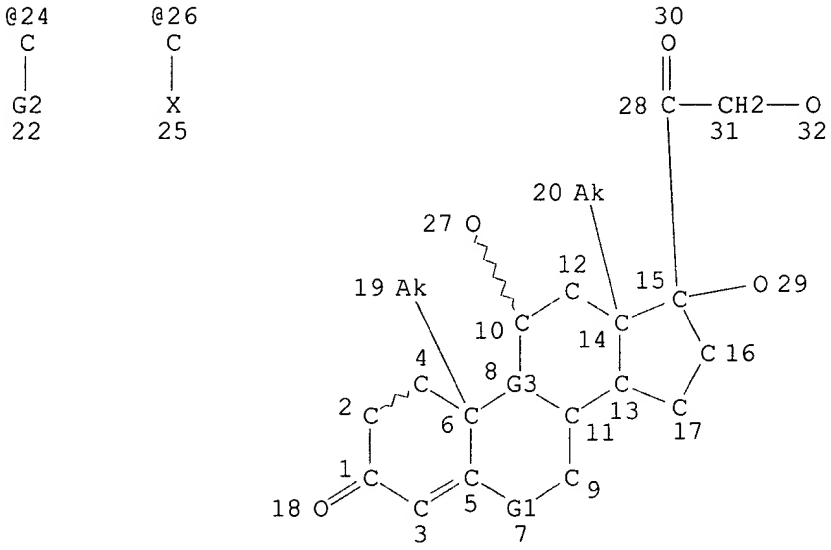


```
VAR G1=C/24
VAR G2=X/AK
VAR G3=C/26
NODE ATTRIBUTES:
CONNECT IS M1  RC AT  16
CONNECT IS M1  RC AT  29
CONNECT IS M1  RC AT  32
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  30

STEREO ATTRIBUTES: NONE
L14        5950 SEA FILE=REGISTRY CSS FUL L12
L15             STR
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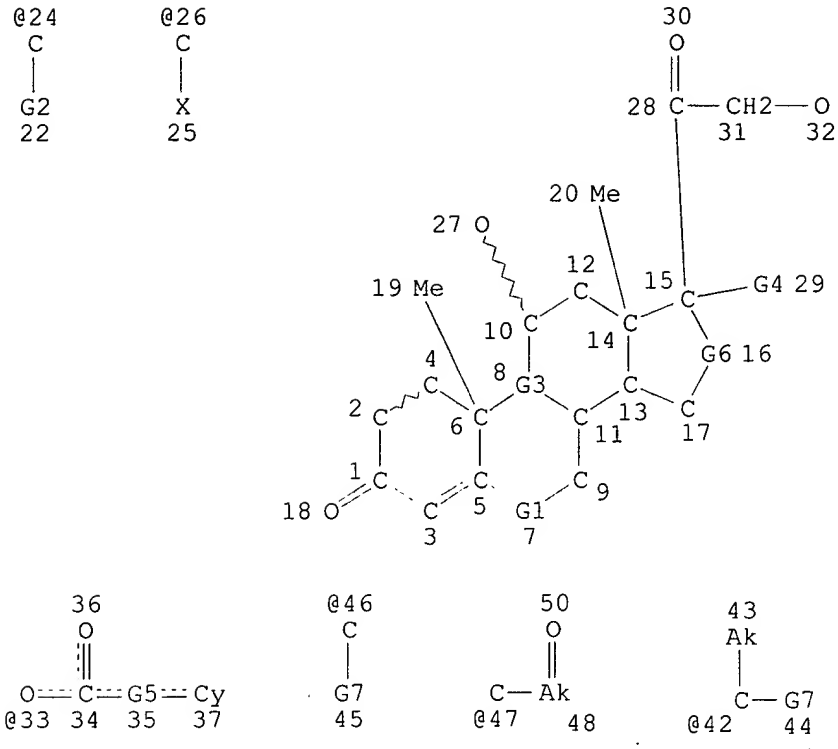


VAR G1=C/24
VAR G2=X/AK
VAR G3=C/26
VAR G4=OH/33
REP G5=(0-1) AK
VAR G6=C/46/42/47
VAR G7=AK/OH
NODE ATTRIBUTES:
CONNECT IS M1 RC AT 32
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

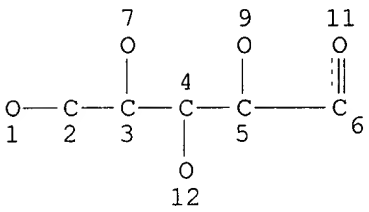
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE

L16 3653 SEA FILE=REGISTRY SUB=L14 CSS FUL L15
L17 227 SEA FILE=REGISTRY ABB=ON PLU=ON L16 AND OC5/ES
L18 3 SEA FILE=REGISTRY ABB=ON PLU=ON L16 AND OCOC2-OC5/ES
L19 131 SEA FILE=REGISTRY ABB=ON PLU=ON L17 AND 1/NC
L20 42 SEA FILE=REGISTRY ABB=ON PLU=ON L19 AND (N OR S OR P OR SI)/ELS
L21 17 SEA FILE=REGISTRY ABB=ON PLU=ON L20 AND (C41H57NO8 OR C37H54FNO12S OR C56H59NO19 OR C43H66FNO12S OR C34H49FO11S OR C40H55NO8 OR C40H60FNO12S OR C68H109FN6O26S3 OR C43H66FNO12S OR C63H63NO21 OR C39H58FNO12S OR C35H51NO10 OR C40H60FNO12S OR C61H95FN4O25S3 OR C36H52FNO12S OR C40H60FNO12S OR C37H55FO11S)
L22 25 SEA FILE=REGISTRY ABB=ON PLU=ON L20 NOT L21
L23 89 SEA FILE=REGISTRY ABB=ON PLU=ON L19 NOT L20
L24 19 SEA FILE=REGISTRY ABB=ON PLU=ON L23 AND (C30H39FO8 OR C28H36O8 OR C26H37FO6 OR C26H38O6 OR C26H36O6 OR C30H38F2O8 OR C27H37FO6 OR C27H32O8 OR C28H31FO8 OR C26H38O6 OR C28H31FO8 OR C27H30O8 OR C30H38O8 OR C29H36F2O8)

```
L25           70 SEA FILE=REGISTRY ABB=ON  PLU=ON  L23 NOT L24
L26           98 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L18 OR L22 OR L25)
L27           95 SEA FILE=REGISTRY ABB=ON  PLU=ON  L16 AND OC4/ES
L28           44 SEA FILE=REGISTRY ABB=ON  PLU=ON  L27 AND NC>=2
L29           51 SEA FILE=REGISTRY ABB=ON  PLU=ON  L27 NOT L28
L30           96 SEA FILE=REGISTRY ABB=ON  PLU=ON  L17 NOT L19
L31            5 SEA FILE=REGISTRY ABB=ON  PLU=ON  L30 AND (H3N OR BA/ELS OR
                 H2O)
L32           23 SEA FILE=REGISTRY ABB=ON  PLU=ON  L30 AND NA/ELS
L33           21 SEA FILE=REGISTRY ABB=ON  PLU=ON  L32 NOT (MXS/CI OR C29H38O8)

L34          124 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L26 OR L31 OR L33)
L35         3344 SEA FILE=REGISTRY ABB=ON  PLU=ON  L16 NOT (L17 OR L18 OR L19
                 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR L28
                 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34)
L36              STR
```




```
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  10

STEREO ATTRIBUTES: NONE
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L38              STR
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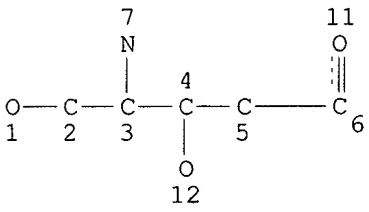


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NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   9

STEREO ATTRIBUTES: NONE
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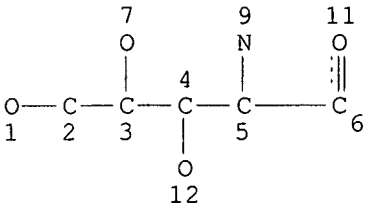

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE
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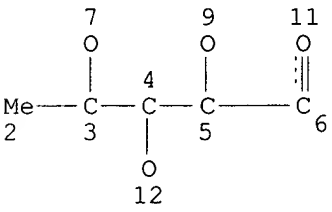
L42 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

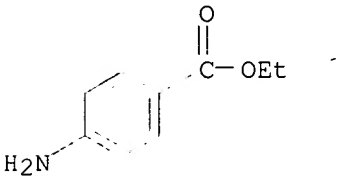
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE
L43 0 SEA FILE=REGISTRY SUB=L35 SSS FUL L42
L44 3 SEA FILE=REGISTRY ABB=ON PLU=ON (L37 OR L39 OR L41 OR L43)

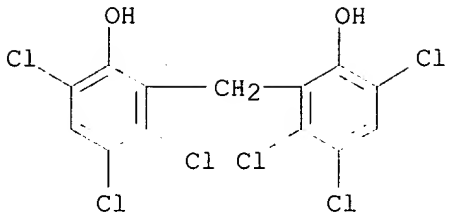
=> d scan l44

L44 3 ANSWERS REGISTRY COPYRIGHT 2002 ACS
IN Meripons (8CI)
MF C23 H32 O6 . C17 H22 N2 O . C13 H6 Cl6 O2 . C9 H13 N O2 . C9 H11 N O2 . C6 H12 O6 . C4 H6 O4 . Cl H
CI MXS

CM 1

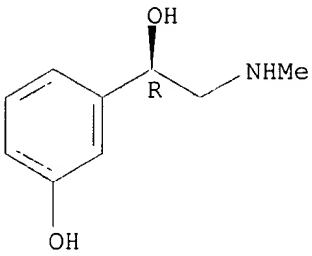


CM 2



CM 3

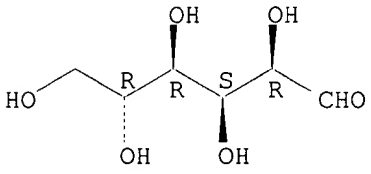
Absolute stereochemistry.



● HCl

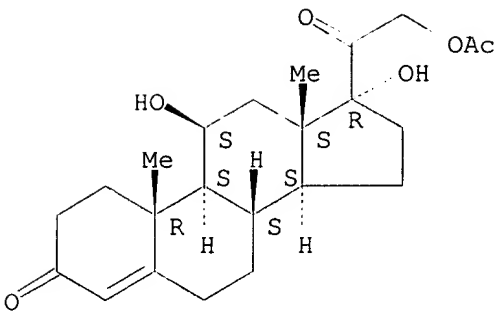
CM 4

Absolute stereochemistry.



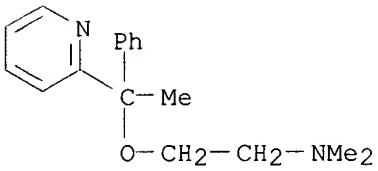
CM 5

Absolute stereochemistry.



CM 6

CM 7



CM 8

$HO_2C-CH_2-CH_2-CO_2H$

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):

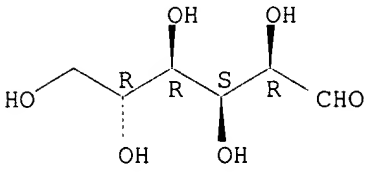
L44 3 ANSWERS REGISTRY COPYRIGHT 2002 ACS
IN Heparin, mixt. with D-glucose and (11.beta.)-11,17,21-trihydroxypregn-4-ene-3,20-dione (9CI)
MF C21 H30 O5 . C6 H12 O6 . Unspecified
CI MXS

CM 1

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

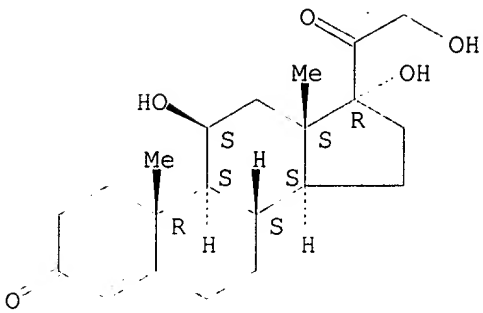
CM 2

Absolute stereochemistry.



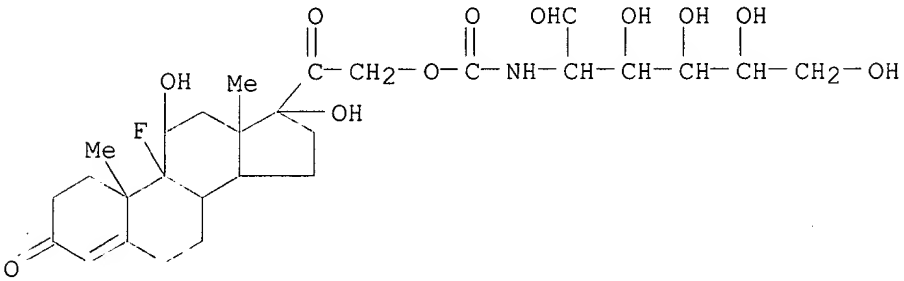
CM 3

Absolute stereochemistry.



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):

L44 3 ANSWERS REGISTRY COPYRIGHT 2002 ACS
IN D-Glucose, 2-deoxy-2-[[[[(11.beta.)-9-fluoro-11,17-dihydroxy-3,20-dioxopregn-4-en-21-yl]oxy]carbonyl]amino]- (9CI)
MF C28 H40 F N O11



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

=> d his

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SET COST OFF

FILE 'HCAPLUS' ENTERED AT 13:09:20 ON 15 DEC 2002
E STRAKAN/PA,CS
L1 11 S E3-E10
E HOLICK M/AU
L2 475 S E3-E11
E RAMANATHAN H/AU
L3 22 S E3,E4
L4 6 S L1 AND L2,L3
L5 22 S L1-L3 AND STEROID?/SC,SX
L6 4 S L5 NOT ?VITAMIN?
E US2001-41676/AP,PRN
E US2001041676/PN
L7 1 S E3

```
L8            1 S L7 AND L1-L7
                SEL RN

     FILE 'REGISTRY' ENTERED AT 13:13:29 ON 15 DEC 2002
L9           13 S E1-E13
L10           5 S L9 AND NR>=5
L11           4 S L10 NOT C24H31FO6
L12             STR
L13          50 S L12 CSS
L14        5950 S L12 CSS FUL
                SAV L14 FONDA759/A
L15             STR L12
L16        3653 S L15 CSS FUL SUB=L14
                SAV L16 FONDA759A/A
L17         227 S L16 AND OC5/ES
L18           3 S L16 AND OCOC2-OC5/ES
L19         131 S L17 AND 1/NC
L20          42 S L19 AND (N OR S OR P OR SI)/ELS
L21          17 S L20 AND (C41H57NO8 OR C37H54FNO12S OR C56H59NO19 OR C43H66FNO
L22          25 S L20 NOT L21
L23          89 S L19 NOT L20
L24          19 S L23 AND (C30H39FO8 OR C28H36O8 OR C26H37FO6 OR C26H38O6 OR C2
L25          70 S L23 NOT L24
L26          98 S L18,L22,L25
L27          95 S L16 AND OC4/ES
L28          44 S L27 AND NC>=2
L29          51 S L27 NOT L28
L30          96 S L17 NOT L19
L31           5 S L30 AND (H3N OR BA/ELS OR H2O)
L32          23 S L30 AND NA/ELS
L33          21 S L32 NOT (MXS/CI OR C29H38O8)
L34         124 S L26,L31,L33
L35        3344 S L16 NOT L17-L34
L36             STR
L37           2 S L36 FUL SUB=L35
L38             STR L36
L39           0 S L38 FUL SUB=L35
L40             STR L36
L41           1 S L40 FUL SUB=L35
L42             STR L36
L43           0 S L42 FUL SUB=L35
L44           3 S L37,L39,L41,L43
                SAV L44 FONDA759B/A
                SAV L34 FONDA759C/A

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L45          17 S L34
L46           0 S L11
                SEL AN L45
                EDIT E14-E30
                EDIT E14-E30 /AN /OREF

     FILE 'HCAPLUS' ENTERED AT 14:02:31 ON 15 DEC 2002
L47          28 S E14-E30
                SEL DN 3 5 7 9 11 14 17 19 21 22 24 26
L48          12 S L47 AND E31-E42
                SEL DN 8
L49           1 S E43
L50          11 S L48 NOT L49
L51          17 S L47 NOT L50
L52           6 S L11
L53          50 S L34
L54          50 S L52,L53
```

```
L55           1 S L54 AND L1-L3
L56          50 S L54 AND (PY<=2000 OR PRY<=2000 OR AY<=2000)
L57          49 S L54 NOT L55
L58           7 S (L11 OR L34)(L)(THU OR BAC OR PAC OR DGN OR AGR OR COS OR DMA
L59          17 S L54 AND (?INFLAM? OR IMMUN?(L)RESPON? OR ADRENAL(L)INSUFF? OR
                E ADREN/CT
L60        2998 S E10-E21
                E E9+ALL
L61       29468 S E3+NT
                E E8+ALL
L62        6512 S E3+NT
                E ADDISON/CT
L63         460 S E5
                E E5+ALL
L64         460 S E5+NT
                E CONGENITAL HYPERPLASIA/CT
                E E4+ALL
L65         341 S E2
                E INFLAMMATION/CT
L66       23441 S E3-E18
                E E3+ALL
L67       71073 S E2+NT
L68       10697 S E37+NT
                E E36+ALL
L69       47496 S E4,E5,E3+NT
                E IMMUNE SYSTEM/CT
                E E4+ALL
L70        4605 S E2
                E EYE DISEASE/CT
                E E4+ALL
                E E2+ALL
L71       23320 S E3+NT
L72       56794 S E99+NT
                E BRAIN EDEMA/CT
L73           1 S E3
                E E3+ALL
L74         849 S E2
                E SPASM/CT
                E E17+ALL
                E CONVULSION/CT
L75         502 S E8
L76         379 S E9
                E E3+ALL
L77     1661565 S E OR E2+NT
                E ALLERGY/CT
L78       17012 S E3-E14
                E E3+ALL
L79       18673 S E3,E2+NT
                E E16+ALL
L80        6368 S E4+NT
L81         349 S E17+NT
                E RHEUMATISM/CT
                E E3+ALL
L82        1141 S E1
                E E2+ALL
L83       20683 S E4,E3+NT
                E NEPHROTIC/CT
                E E4+ALL
L84         709 S E2
                E SKIN DISEASE/CT
                E E4+ALL
L85       10923 S E2
L86           1 S E1
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                E E2+ALL
L87         48885 S E3+NT
L88          6588 S E114+NT OR E145+NT
                E RESPIRATORY DISTRESS/CT
L89          2182 S E5-E8
                E E4+ALL
L90          3050 S E4+NT
                E IMMUNE SYSTEM/CT
                E E4+ALL
L91          4605 S E2
L92             9 S L54 AND L60-L91
                SEL DN AN 5 6
L93             7 S L92 NOT E1-E6
L94            13 S L58,L59 NOT L92
L95            20 S L55,L93,L94
L96            20 S L95 AND L54-L95
L97            30 S L54 NOT L96
L98            27 S L97 NOT L51
                SEL DN AN 3 5 8 9
L99             4 S E7-E18 AND L98
L100           24 S L96,L99
L101           13 S L51 NOT L100
L102            1 S L101 AND ALLERG?
L103           25 S L100,L102
L104           35 S L51,L54 NOT L103
                SAV L104 FONDA759D/A

     FILE 'REGISTRY' ENTERED AT 14:28:31 ON 15 DEC 2002

=> fil hcaplus
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FILE LAST UPDATED: 13 Dec 2002  (20021213/ED)

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the CAS Roles thesaurus (/RL field) in this file.

=> d l103 all hitstr tot

L103 ANSWER 1 OF 25  HCAPLUS  COPYRIGHT 2002 ACS
AN   2001:525925  HCAPLUS
DN   135:102902
TI   Synthesis of glycosides and orthoester glycosides of glucocorticoids and
```

uses of in therapy
IN **Holick, Michael Francis; Ramanathan, Halasya**
PA **Strakan Group PLC, UK**
SO PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K031-575
ICS A61P029-00
CC 2-4 (Mammalian Hormones)
Section cross-reference(s): 32, 33
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2001051057	A2	20010719	WO 2001-GB146	20010115	<--
	WO 2001051057	A3	20020321			
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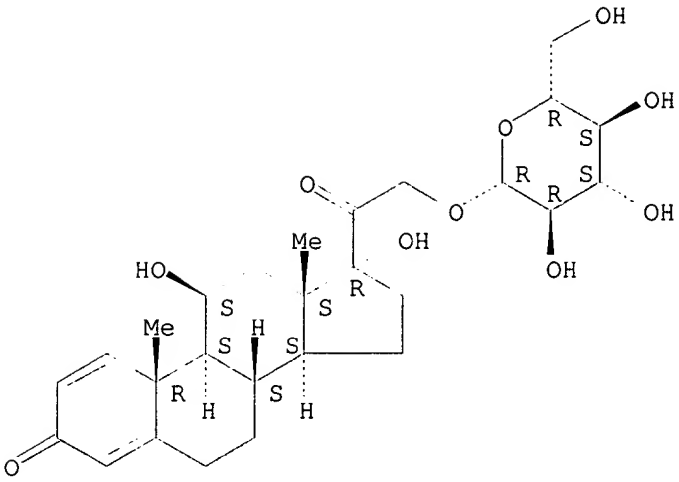
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
	US 2001041676	A1	20011115	US 2001-759371	20010116	<--
PRAI	US 2000-176007P	P	20000114	<--		

OS MARPAT 135:102902
AB Serum levels of therapeutically useful glucocorticosteroids are substantially increased by oral administration of the corresponding glycoside or orthoester glycoside. In one aspect, the present invention provides a compn. for the treatment of a condition treatable by the systemic administration of a glucocorticosteroid, characterized in that the glucocorticosteroid is a deriv. in the form of a glycoside or orthoester glycoside, or salt or ester of the deriv. In another aspect, the invention relates to use of the glycosides and orthoester glycosides in therapy, esp. in the treatment of such conditions as **adrenal insufficiency, inflammation** and the modulation of **immune responses.**
ST glycoside glucocorticoid prepn therapeutic use
IT Blood analysis
HPLC
(HPLC assay of prednisolone and prednisolone glucoside in blood serum)
IT **Adrenal cortex, disease**
(**congenital adrenal hyperplasia;**
synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT **Brain, disease**
(**edema;** synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT Glucocorticoids
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(glycosides and orthoester glycosides; synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT Development, mammalian postnatal
(infant, infantile massive **spasm;** synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT **Convulsion**
(infantile massive **spasm;** synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)

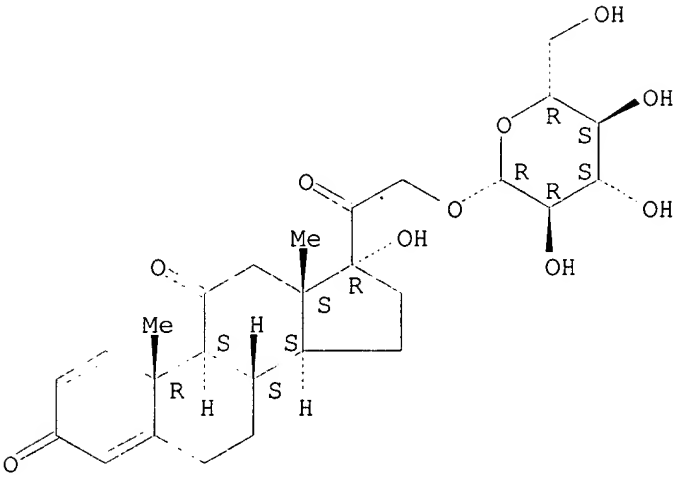
IT **Eye, disease**
(**inflammation**; synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT **Adrenal gland, disease**
(**insufficiency**; synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT **Kidney, disease**
(**nephrotic syndrome**; synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT **Respiratory distress syndrome**
(**newborn**; synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT **Addison's disease**
Allergy inhibitors
Anti-inflammatory agents
Antiarthritics
Anticonvulsants
Antirheumatic agents
Immunomodulators
Skin, disease
(synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT Drug delivery systems
(therapeutic compns. contg. glycosides and orthoester glycosides of glucocorticoids)
IT 50-02-2DP, Dexamethasone, glycosides and orthoester glycosides
50-23-7DP, Hydrocortisone, glycosides and orthoester glycosides
50-24-8DP, Prednisolone, glycosides and orthoester glycosides 53-03-2DP, Prednisone, glycosides and orthoester glycosides 76-25-5DP, Triamcinolone acetonide, glycosides and orthoester glycosides 83-43-2DP, Methylprednisolone, glycosides and orthoester glycosides 378-44-9DP, Betamethasone, glycosides and orthoester glycosides **88158-44-5P**, Prednisolone glucoside **350610-18-3P**
RL: **BAC (Biological activity or effector, except adverse)**; BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT 50-24-8, Prednisolone 53-03-2, Prednisone 572-09-8, Acetobromoglucose 42613-24-1, Silver silicate
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT **88179-95-7P**, Prednisolone-21-O-glucoside tetraacetate **350610-17-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
IT **88158-44-5P**, Prednisolone glucoside **350610-18-3P**
RL: **BAC (Biological activity or effector, except adverse)**; BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
RN 88158-44-5 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



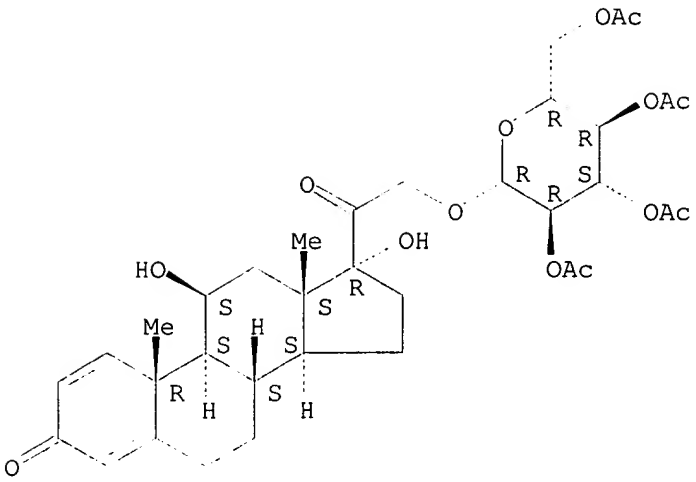
RN 350610-18-3 HCAPLUS
CN Pregna-1,4-diene-3,11,20-trione, 21-(.beta.-D-glucopyranosyloxy)-17-hydroxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



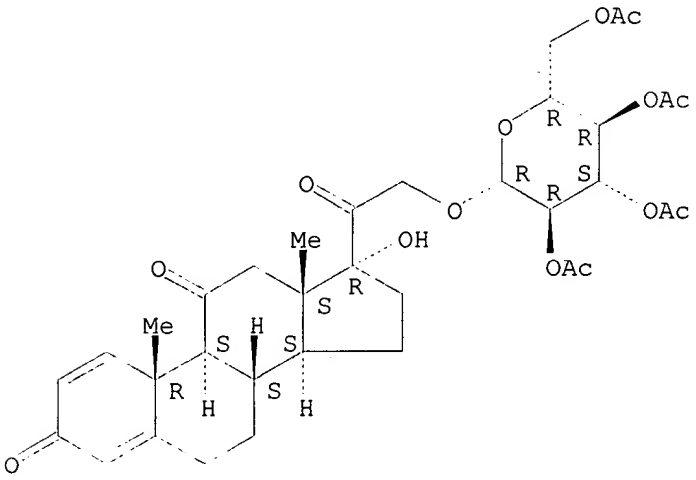
IT **88179-95-7P**, Prednisolone-21-O-glucoside tetraacetate
350610-17-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of glycosides and orthoester glycosides of glucocorticoids and uses of in therapy)
RN 88179-95-7 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 350610-17-2 HCAPLUS
CN Pregna-1,4-diene-3,11,20-trione, 17-hydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 2 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:31363 HCAPLUS
DN 134:95484
TI Compositions and methods for targeted enzymic release of cell regulatory compounds
IN Naleway, John; Howard, Rachel
PA Marker Gene Technologies, Inc., USA
SO PCT Int. Appl., 97 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K048-00
CC 1-6 (Pharmacology)
Section cross-reference(s): 33, 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI WO 2001002020 A2 20010111 WO 2000-US15156 20000601 <--
WO 2001002020 A3 20010719
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1200131 A2 20020502 EP 2000-946772 20000601 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL
PRAI US 1999-343325 A2 19990630 <--
WO 2000-US15156 W 20000601 <--
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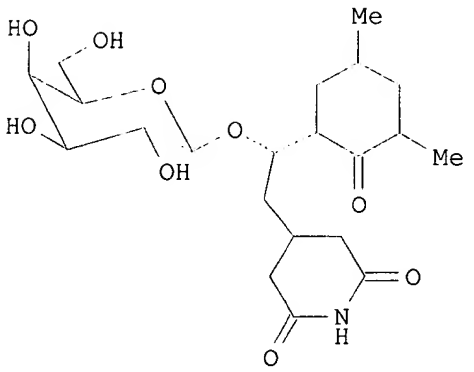


I

AB Novel prodrugs and methods for their use to alter the growth and biol. characteristics of living cells, tissues, or whole organisms are described. The methods allow for selective activation of the prodrugs at or near transformant host cells expressing a gene for an enzyme that activates the pro-drugs. Prodrugs according to a preferred embodiment of the invention are conjugates of a bioactive compd. and a chem. group that is capable of being cleaved from the bioactive compd. by action of an enzyme. Methods according to this invention include: (a) introducing into targeted cells a gene encoding an enzyme and (b) administering a prodrug, wherein the enzyme releases the prodrug from conjugation. In a preferred embodiment of the invention, the gene encoding the enzyme is a marker gene. A 5-fluorouridine 5'-O-.beta.-D-galactoside conjugate (I) was prepd.

ST prodrug conjugate prepn targeted enzymic release

IT Gene, animal
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(-encoding enzyme; compns. and methods for targeted enzymic release of cell regulatory compds.)

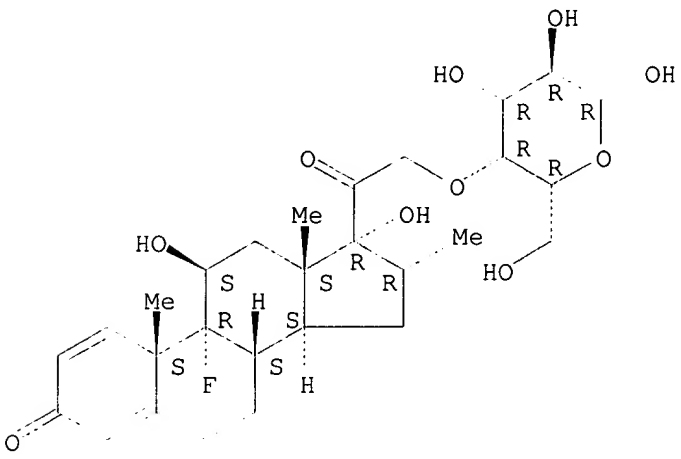
IT Antitumor agents
Drug targeting
Escherichia coli
(compns. and methods for targeted enzymic release of cell regulatory compds.)

IT Enzymes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. and methods for targeted enzymic release of cell regulatory

compds.)
IT Gene, microbial
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lacZ; compns. and methods for targeted enzymic release of cell regulatory compds.)
IT Photinus pyralis
Renilla reniformis
(luciferase of; compns. and methods for targeted enzymic release of cell regulatory compds.)
IT Drug delivery systems
(prodrugs; compns. and methods for targeted enzymic release of cell regulatory compds.)
IT 9001-45-0, .beta.-Glucuronidase 9001-78-9 9031-11-2, .beta.-Galactosidase 9073-60-3, .beta.-Lactamase 61869-41-8, Luciferase 61970-00-1, Luciferase
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(compns. and methods for targeted enzymic release of cell regulatory compds.)
IT 88337-91-1P 149965-92-4P 191476-32-1P 319426-55-6P
319426-57-8P 319426-59-0P 319426-63-6P 319426-65-8P
319426-67-0P 319426-69-2P 319426-70-5P 319426-71-6P 319426-72-7P
319426-73-8P
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(compns. and methods for targeted enzymic release of cell regulatory compds.)
IT 50-02-2, Dexamethasone 50-89-5, Thymidine, reactions 56-75-7, Chloramphenicol 56-81-5, Glycerol, reactions 60-54-8, Tetracycline 66-81-9, Cycloheximide 111-64-8, Octanoyl chloride 302-79-4, Retinoic acid 316-46-1, 5-Fluorouridine 369-07-3, 2-Nitrophenyl .beta.-D-galactopyranoside 501-36-0, Resveratrol 939-69-5, 2-Cyano-6-hydroxybenzothiazole 957-68-6, 7-Aminocephalosporanic acid 3068-32-4, Acetobromogalactose 3150-24-1 3695-77-0, Triphenylmethylmercaptan 4761-00-6, 2,4,6-Trimethylbenzyl bromide 5328-37-0, L-Arabinose 13726-84-6 17673-25-5, Phorbol 23214-92-8, Doxorubicin 70476-82-3, Mitoxantrone dihydrochloride 77813-95-7 261508-68-3 319426-83-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(compns. and methods for targeted enzymic release of cell regulatory compds.)
IT 100-79-8P 859-07-4P 1069-87-0P 2797-17-3P 4799-67-1P 5094-33-7P, 4-Aminophenyl .beta.-D-galactopyranoside 15028-56-5P 41128-81-8P 62442-59-5P 88824-10-6P 145827-12-9P 319426-74-9P 319426-75-0P 319426-76-1P 319426-77-2P 319426-78-3P 319426-79-4P 319426-80-7P 319426-81-8P 319426-82-9P 319426-84-1P 319426-85-2P 319426-86-3P 319426-87-4P 319426-88-5P 319426-89-6P 319426-90-9P 319426-91-0P 319426-92-1P 319426-93-2P 319426-94-3P 319426-95-4P 319426-96-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(compns. and methods for targeted enzymic release of cell regulatory compds.)
IT **319426-57-8P**
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(compns. and methods for targeted enzymic release of cell regulatory compds.)
RN 319426-57-8 HCAPLUS

CN .beta.-D-Galactopyranose, 4-O-[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]- (9CI) (CA INDEX NAME)

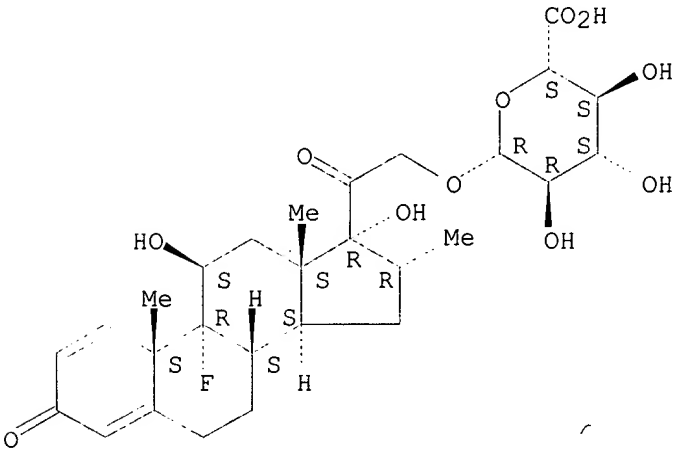
Absolute stereochemistry.



L103 ANSWER 3 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:727481 HCAPLUS
DN 128:66372
TI Steady-state pharmacokinetics of corticosteroid delivery from glucuronide prodrugs in normal and colitic rats
AU Nolen, Harold W., III; Fedorak, Richard N.; Friend, David R.
CS Pharmaceutical Formulation Design Group, SRI International, Menlo Park, CA, 94025, USA
SO Biopharmaceutics & Drug Disposition (**1997**), 18(8), 681-695
CODEN: BDDID8; ISSN: 0142-2782
PB Wiley
DT Journal
LA English
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 2
AB Ulcerative colitis and Crohn's colitis are chronic intestinal diseases usually treated with various nonsteroidal **antiinflammatory** agents to maintain remission. Corticosteroids, while useful in acute treatment of these diseases, present side-effects generally too serious to allow maintenance therapy. Colon-specific drug delivery may permit use of corticosteroids for maintenance therapy if doses can be reduced while maintaining efficacy. In this study, two prodrugs (dexamethasone-.beta.-D-glucuronide (DXglrd) and budesonide-.beta.-D-glucuronide (BUDglrd)) were administered by intragastric (ig) infusion to conventional and colitic rats. In addn., dexamethasone (DX) and budesonide (BUD) were administered wither ig or s.c. to healthy and colitic rats. Colon-specific delivery was assessed using the drug delivery index (DDI). In conventional rats, DDIs for DXglrd ranged from about five to as high as 11 in the luminal contents relative to DX administered s.c. or ig. DDI values were also elevated in the mucosa of both healthy and colitic rats following ig administration of DXglrd. BUD was delivered somewhat less effectively from BUDglrd to the rat large intestine than was DX and DXglrd. The data are consistent with efficacy studies and support the conclusion that local delivery of corticosteroids to the large intestine is due, at least in part, to higher levels of drug delivery into the mucosal tissues.
ST corticosteroid prodrug delivery Crohn disease
IT Intestine, disease
(Crohn's; steady-state pharmacokinetics of corticosteroid delivery from

glucuronide prodrugs in normal and colitic rats)
IT Drug delivery systems
(prodrugs; steady-state pharmacokinetics of corticosteroid delivery from glucuronide prodrugs in normal and colitic rats)
IT Drug delivery systems
Pharmacokinetics
(steady-state pharmacokinetics of corticosteroid delivery from glucuronide prodrugs in normal and colitic rats)
IT Corticosteroids, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(steady-state pharmacokinetics of corticosteroid delivery from glucuronide prodrugs in normal and colitic rats)
IT 152129-70-9, Budesonide-.beta.-D-glucuronide **152154-28-4**, Dexamethasone-.beta.-D-glucuronide
RL: BPR (Biological process); BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); PROC (Process); USES (Uses)
(steady-state pharmacokinetics of corticosteroid delivery from glucuronide prodrugs in normal and colitic rats)
IT **152154-28-4**, Dexamethasone-.beta.-D-glucuronide
RL: BPR (Biological process); BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); PROC (Process); USES (Uses)
(steady-state pharmacokinetics of corticosteroid delivery from glucuronide prodrugs in normal and colitic rats)
RN 152154-28-4 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl (9CI) (CA INDEX NAME)

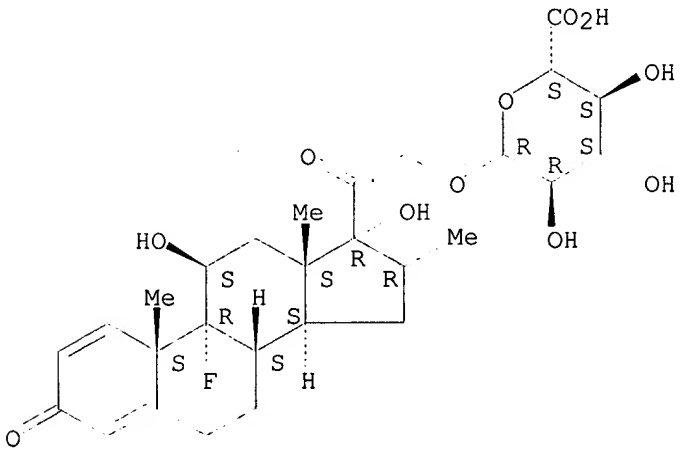
Absolute stereochemistry.



L103 ANSWER 4 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:521733 HCAPLUS
DN 125:230346
TI Glucuronide prodrugs for colonic delivery: steady-state kinetics in conventional and colitic rats
AU Nolen, H. III; Fedorak, R. N.; Friend, D. R.
CS Controlled Release Department, SRI International, Menlo Park, CA, 94025, USA
SO Proceedings of the International Symposium on Controlled Release of Bioactive Materials (**1996**), 23rd, 61-62
CODEN: PCRMEY; ISSN: 1022-0178
PB Controlled Release Society, Inc.

DT Journal
LA English
CC 63-5 (Pharmaceuticals)
AB Two prodrugs of dexamethasone-.beta.-D-glucuronide (I) and budesonide-.beta.-D-glucuronide (II) were administered by intragastric infusion to conventional rats and colitis rats. All animals then were infused for a sufficient time to achieve steady-state in plasma and gastrointestinal tissue and a drug delivery index was calcd. Both I and II delivered more of their resp. drugs to the mucosa of the rat large intestine than was possible from conventional dosing of these drugs.
ST steroid glucuronide prodrug colonic delivery colitis
IT Steroids, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(glucuronide prodrugs of steroids for colonic delivery in colitic rats)
IT Intestine, disease
(colitis, glucuronide prodrugs of steroids for colonic delivery in colitic rats)
IT Intestine, disease
(**inflammatory**, glucuronide prodrugs of steroids for colonic delivery in colitic rats)
IT Pharmaceutical dosage forms
(prodrugs, glucuronide prodrugs of steroids for colonic delivery in colitic rats)
IT **152154-28-4P**, Dexamethasone-.beta.-D-glucuronide
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(glucuronide prodrugs of steroids for colonic delivery in colitic rats)
IT 152129-70-9, Budesonide-.beta.-D-glucuronide
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(glucuronide prodrugs of steroids for colonic delivery in colitic rats)
IT **152154-28-4P**, Dexamethasone-.beta.-D-glucuronide
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(glucuronide prodrugs of steroids for colonic delivery in colitic rats)
RN 152154-28-4 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 5 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:881298 HCAPLUS
DN 123:286523
TI Preparation of 21-monosaccharide substituted steroid compounds as **antiinflammatory** agents
IN Sugai, Kei; Goto, Motoaki; Yoshida, Satoshi; Okuno, Yumiko; Ishii, Takayuki; Kibushi, Nobuyuki; Nishikawa, Hutoshi
PA Mect Corp., Japan
SO PCT Int. Appl., 139 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C07J017-00
ICS A61K031-705
CC 33-8 (Carbohydrates)
Section cross-reference(s): 1
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9509177	A1	19950406	WO 1994-JP1602	19940928 <--
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2172983	AA	19950406	CA 1994-2172983	19940928 <--
	EP 721956	A1	19960717	EP 1994-927793	19940928 <--
	EP 721956	B1	20000802		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	AT 195127	E	20000815	AT 1994-927793	19940928 <--
	US 5945404	A	19990831	US 1997-927399	19970910 <--
PRAI	JP 1993-243123	A	19930929 <--		
	WO 1994-JP1602	W	19940928 <--		

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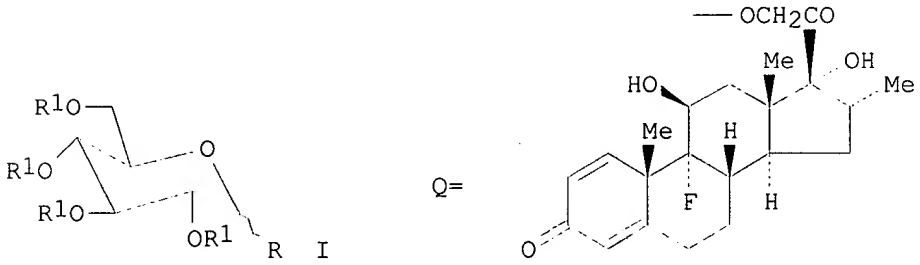

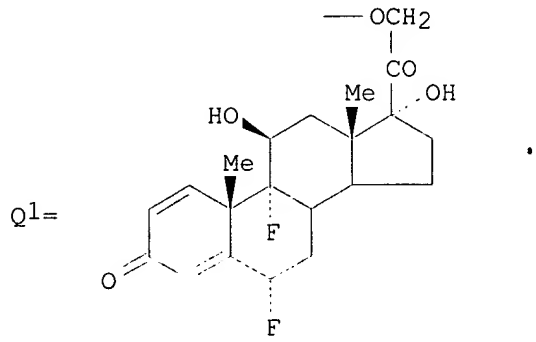

AB A steroid glycoside (wherein the 21-position of the steroid is substituted by a monosaccharide or an acylated sugar selected from glucose, galactose,

mannose, rhamnose, fucose, N-acetylglucosamine, N-acetylgalactosamine, galacturonic acid, glucuronic acid and sialic acid) is prepd. The hydroxy groups of the acylated sugar are protected by toluoyl, benzoyl, p-chlorobenzoyl, or arylalkyl. The preferred steroid is difluprednate, diflorasone, diflucortolone, dexamethasone, betamethasone, or betamethasone valerate. This glycoside shows reduced side effects since it is resistant to common glycosidase and is converted into active steroid by glycosidase increased at **inflammation** sites. Thus, 300 mg dexamethasone was glycosidated with 1.10 g per(p-toluoyl)-.alpha.-D-glucopyranosyl bromide in the presence of silver triflate and mol. sieve 5A in THF at room temp. for 2 h to give, after silica gel chromatog. and reversed phase HPLC, 32.3% .beta.-D-glucopyranosyldexamethasone (I; R = .beta.-Q, R1 = toluoyl) and 6.7% .alpha.-anomer I (R = .alpha.-Q, R1 = toluoyl), which were treated with NaOMe in MeOH at room temp. for 5 h to give, after HPLC purifn., .beta.-glycoside I (R = .beta.-Q, R1 = H) (II) and .alpha.-glycoside (R = .alpha.-Q, R1 = H) in 88.5 and 40.0%, resp. In paper disk assay, II in vivo decreased granuloma in rats by 47.4% compared to the control. .beta.-D-Glucopyranosyldifluprednate I (R = .beta.-Q1, R1 = H) at 1.0 mg inhibited the croton oil-induced granuloma in rats by 76.4.+-.4.3%. A vaseline-based ointment (0.1% equiv. dexamethasone, 20 mg) contg. acetylated .beta.-D-glucopyranosyldexamethasone I (R = .beta.-Q, R1 = Ac), which was applied to the right ear of mice, inhibited the croton oil-induced ear edema by 49.8.+-.9.7%.

ST monosaccharide glycoside steroid prepn **antiinflammatory**; granuloma treatment steroid glycoside; edema treatment steroid glycoside

IT **Inflammation inhibitors**
(prepn. of monosaccharide-substituted steroid compds. as **antiinflammatory** agents)

IT Glycosides
Steroids, preparation
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of monosaccharide-substituted steroid compds. as **antiinflammatory** agents)

IT Edema
Granuloma
(prepn. of monosaccharide-substituted steroid compds. as **antiinflammatory** agents for treating granuloma and edema)

IT **169454-05-1P**
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(intermediate for prepn. of monosaccharide-substituted steroid compds. as **antiinflammatory** agents)

IT 572-09-8P, 2,3,4,6-Tetra-O-acetyl-.alpha.-D-glucopyranosyl bromide
3068-34-6P, N,3,4,6-O-Tetraacetyl-.alpha.-D-glucosaminyl chloride
4163-65-9P, 1,2,3,4,6-Penta-O-acetyl-.alpha.-D-mannopyranose 7355-18-2P
13242-53-0P 13350-45-3P 14218-11-2P 21085-72-3P 22415-91-4P
41355-44-6P, N,3,4,6-O-Tetraacetyl-.alpha.-D-galactosaminyl chloride
56768-32-2P 64913-16-2P, 1,2,3,4-Tetra-O-acetyl-.alpha.-L-fucopyranose
84635-54-1P 100083-77-0P 100102-39-4P 104992-64-5P 110797-45-0P
114853-37-1P 153215-00-0P 153215-01-1P 157848-88-9P 169453-92-3P
169453-93-4P 169453-94-5P 169453-95-6P 169453-96-7P
169453-97-8P 169453-98-9P 169453-99-0P 169454-00-6P
169454-01-7P 169454-02-8P 169454-04-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate for prepn. of monosaccharide-substituted steroid compds. as **antiinflammatory** agents)

IT **4157-53-3P 6804-44-0P 88158-43-4P**
88158-45-6P 92901-23-0P 92901-30-9P

152154-28-4P 153247-83-7P 153247-84-8P
153247-87-1P 169453-45-6P 169453-46-7P
169453-47-8P 169453-48-9P 169453-49-0P
169453-50-3P 169453-51-4P 169453-52-5P
169453-53-6P 169453-54-7P 169453-55-8P
169453-56-9P 169453-57-0P 169453-58-1P
169453-59-2P 169453-60-5P 169453-61-6P 169453-62-7P
169453-63-8P 169453-64-9P 169453-65-0P
169453-66-1P 169453-67-2P 169453-68-3P
169453-69-4P 169453-70-7P 169453-71-8P
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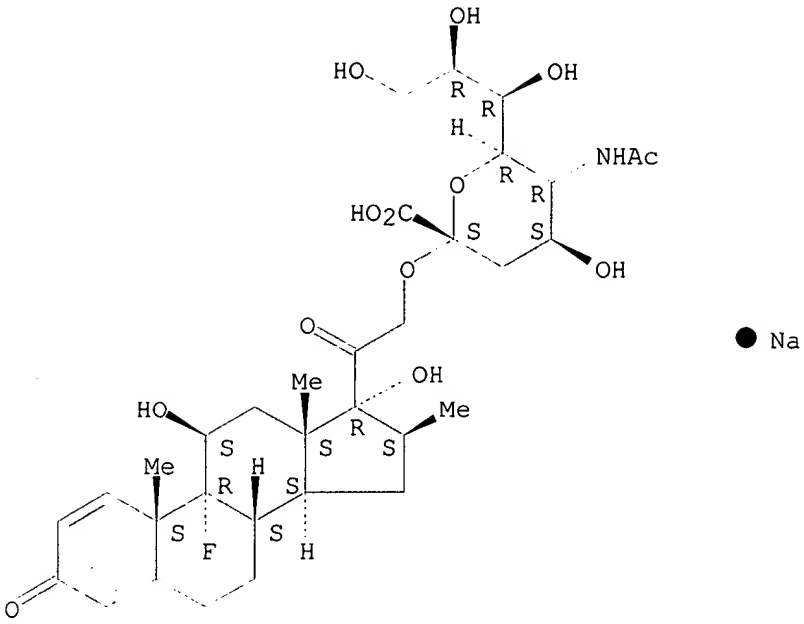
169453-84-3P 169453-85-4P 169453-86-5P 169453-87-6P 169453-88-7P
169453-89-8P **169453-90-1P 169453-91-2P**
169454-03-9P
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of monosaccharide-substituted steroid compds. as **antiinflammatory** agents)

IT 50-02-2, Dexamethasone 50-99-7, D-Glucose, reactions 59-23-4, D-Galactose, reactions 75-36-5, Acetyl chloride 98-88-4, Benzoyl chloride 108-24-7, Acetic anhydride 122-01-0, p-Chlorobenzoyl chloride 334-88-3, Diazomethane 378-44-9, Betamethasone 604-69-3, 1,2,3,4,6-Penta-O-acetyl-.beta.-D-glucopyranose 685-73-4, D-Galacturonic acid 806-29-1 874-60-2, p-Toluoyl chloride 933-88-0, o-Toluoyl chloride 1711-06-4, m-Toluoyl chloride 1811-31-0, N-Acetyl-D-galactosamine 2152-44-5, Betamethasone valerate 2438-80-4, L-Fucose 2557-49-5, Diflorasone 2607-06-9, Diflucortolone 3458-28-4, D-Mannose 7512-17-6, N-Acetyl-D-glucosamine 17314-32-8, Tributyltin methyl sulfide 18281-92-0 67670-69-3 110224-78-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of monosaccharide-substituted steroid compds. as **antiinflammatory** agents)

IT **169454-05-1P**
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(intermediate for prepn. of monosaccharide-substituted steroid compds. as **antiinflammatory** agents)

RN 169454-05-1 HCAPLUS
CN .beta.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.beta.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

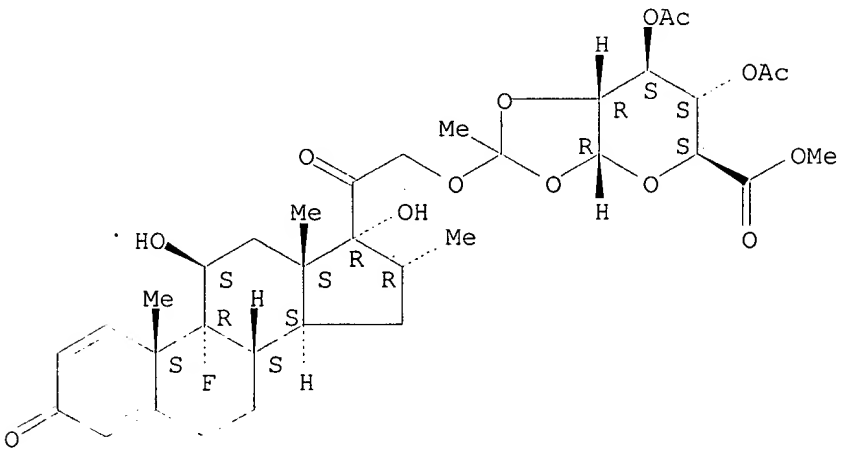


IT **169453-97-8P 169453-98-9P 169454-01-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate for prepn. of monosaccharide-substituted steroid compds. as **antiinflammatory** agents)

RN 169453-97-8 HCAPLUS

CN .alpha.-D-Glucopyranuronic acid, 1,2-O-[1-[[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]oxy]ethylidene]-, methyl ester, 3,4-diacetate (9CI) (CA INDEX NAME)

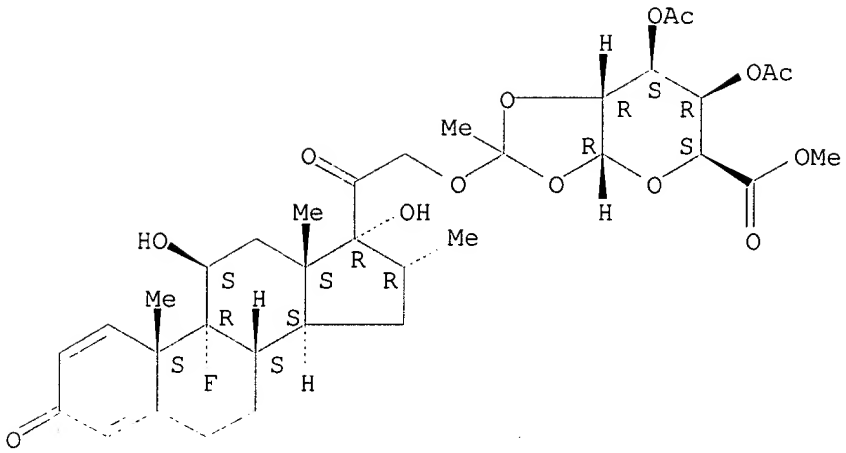
Absolute stereochemistry.



RN 169453-98-9 HCAPLUS

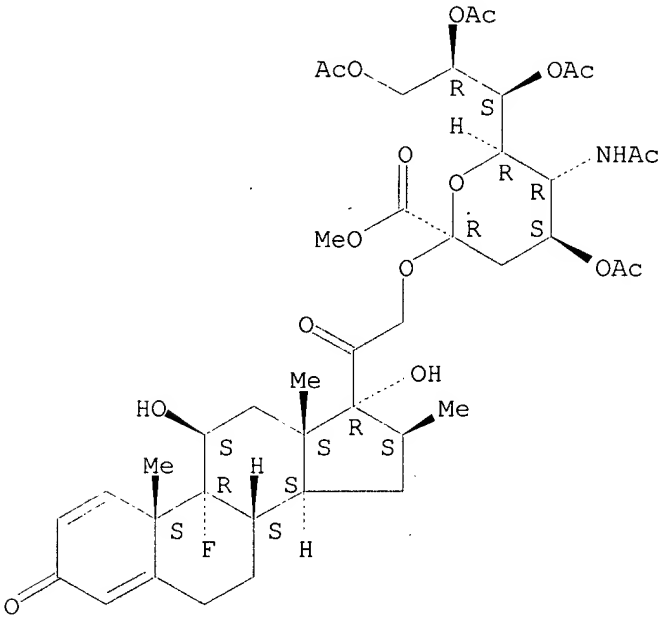
CN .alpha.-D-Galactopyranuronic acid, 1,2-O-[1-[[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]oxy]ethylidene]-, methyl ester, 3,4-diacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 169454-01-7 HCAPLUS
CN .alpha.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.beta.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]-, methyl ester, 4,7,8,9-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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88158-45-6P 92901-23-0P 92901-30-9P
152154-28-4P 153247-83-7P 153247-84-8P
153247-87-1P 169453-45-6P 169453-46-7P
169453-47-8P 169453-48-9P 169453-49-0P
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169453-59-2P 169453-60-5P 169453-63-8P
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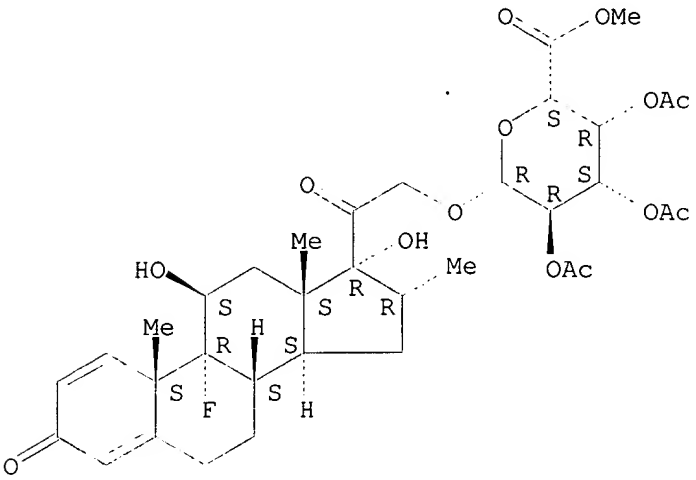
169453-82-1P 169453-83-2P 169453-90-1P
169453-91-2P 169454-03-9P
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of monosaccharide-substituted steroid compds. as **antiinflammatory** agents)

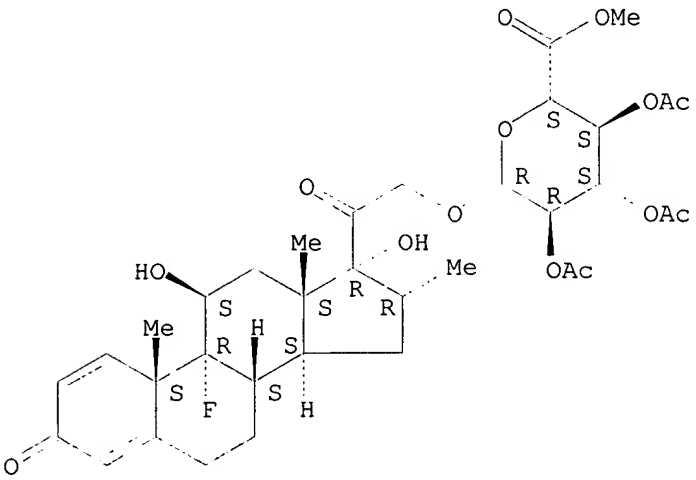
RN 4157-53-3 HCAPLUS
CN .beta.-D-Galactopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 6804-44-0 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate (9CI) (CA INDEX NAME)

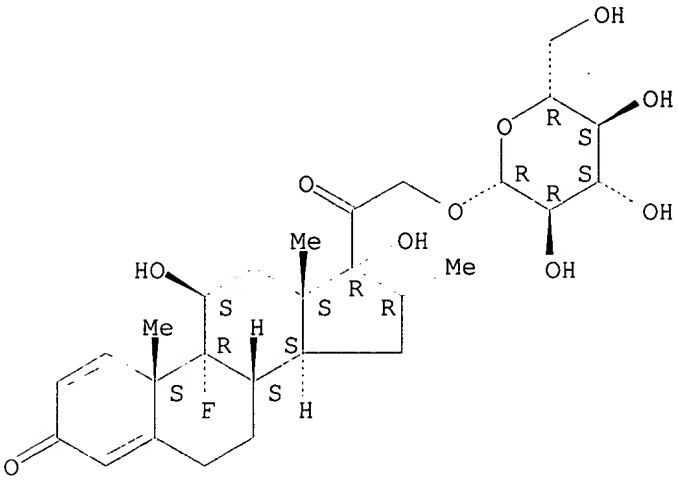
Absolute stereochemistry.



RN 88158-43-4 HCAPLUS

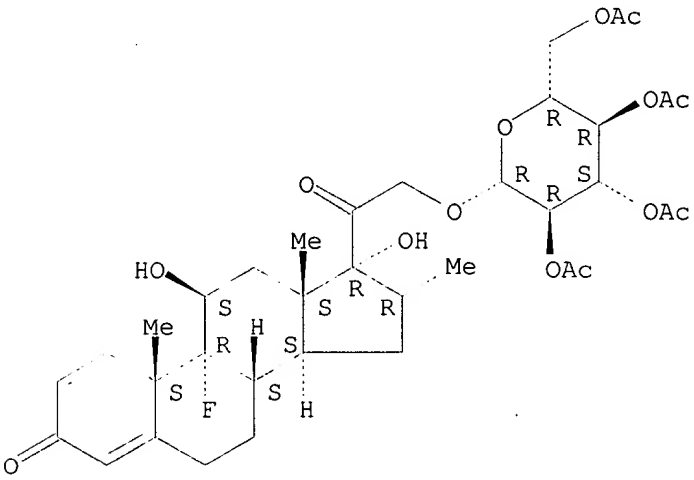
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



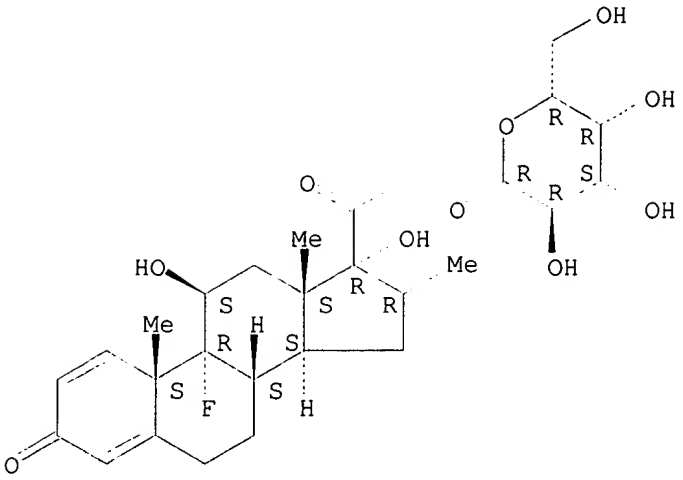
RN 88158-45-6 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 92901-23-0 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-galactopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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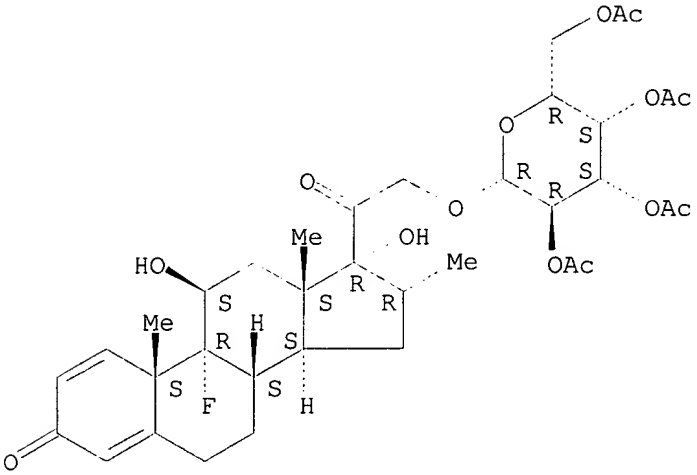
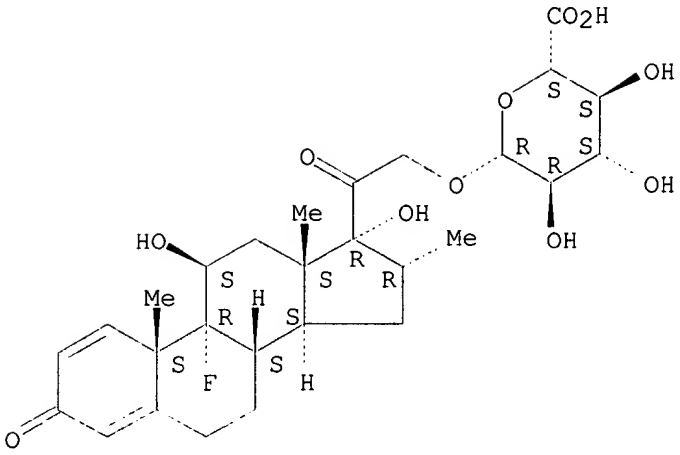
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



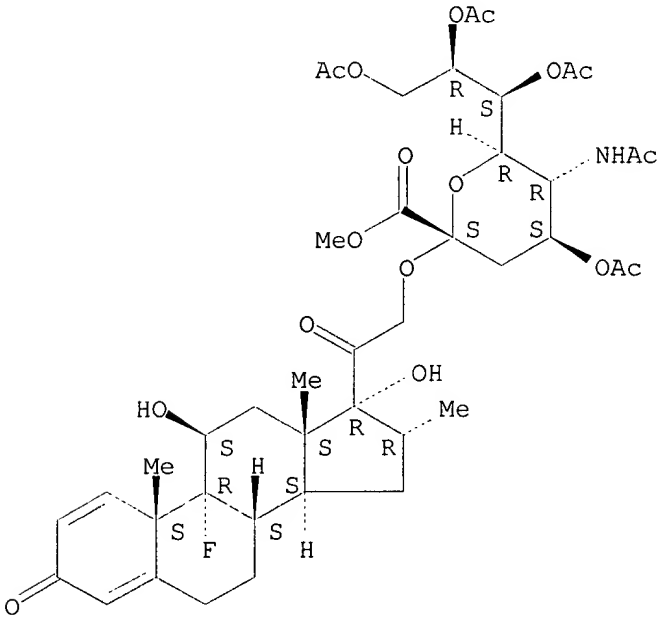
RN 152154-28-4 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



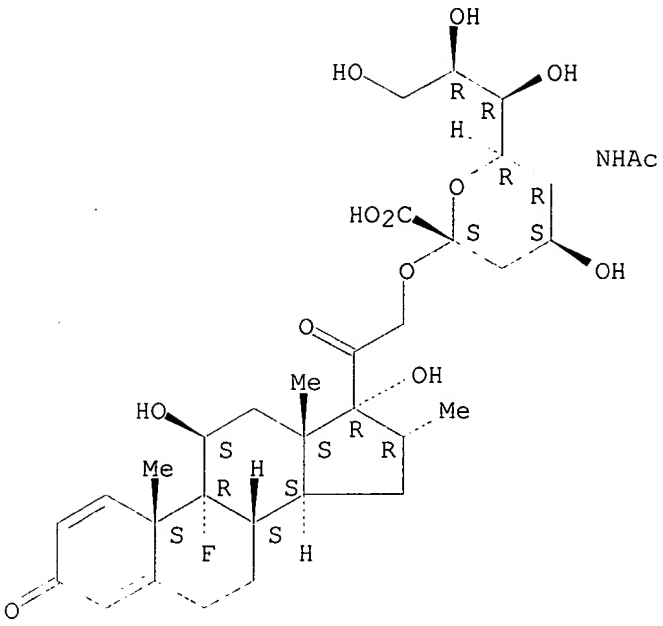
RN 153247-83-7 HCAPLUS
CN .beta.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]-, methyl ester, 4,7,8,9-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



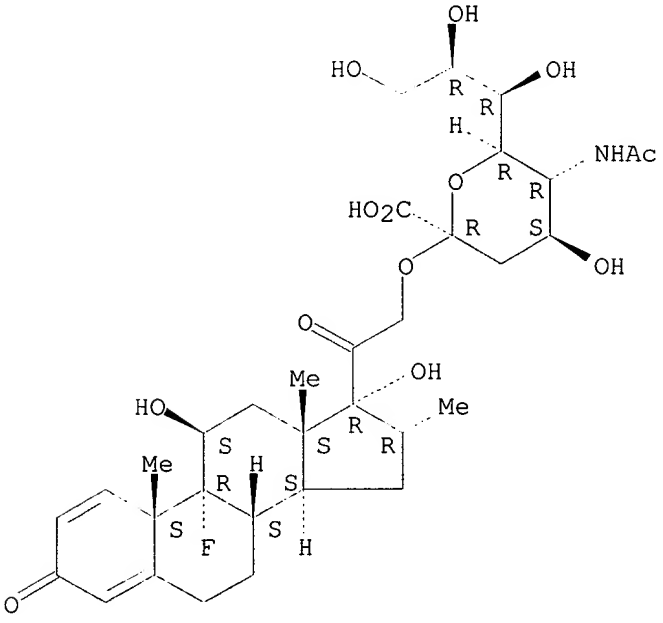
RN 153247-84-8 HCAPLUS
CN .beta.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 153247-87-1 HCAPLUS
CN .alpha.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]- (9CI) (CA INDEX NAME)

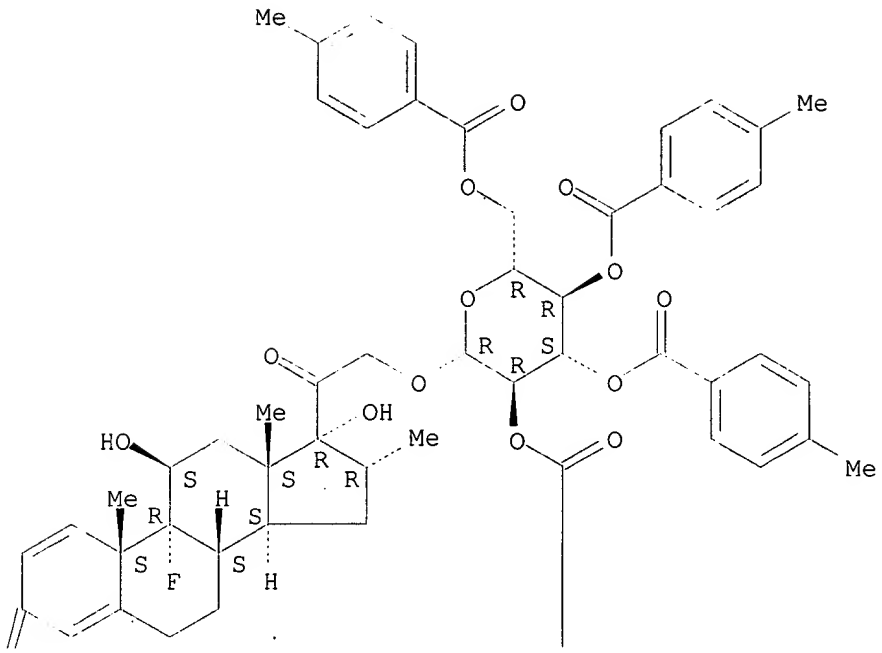
Absolute stereochemistry.



RN 169453-45-6 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(4-methylbenzoyl)-.beta.-D-glucopyranosyl]oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

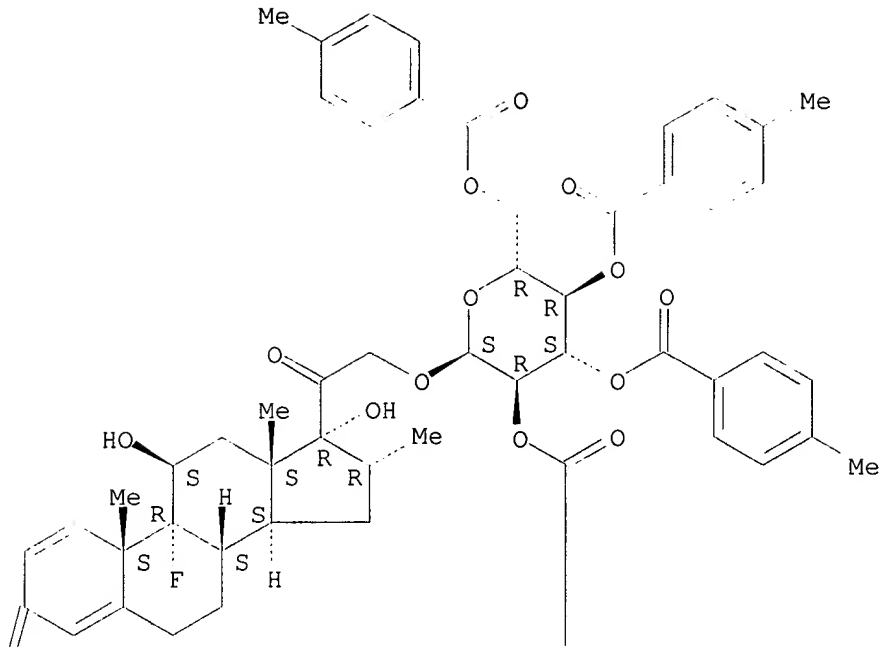


PAGE 2-A

RN 169453-46-7 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(4-methylbenzoyl)-.alpha.-D-glucopyranosyl]oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

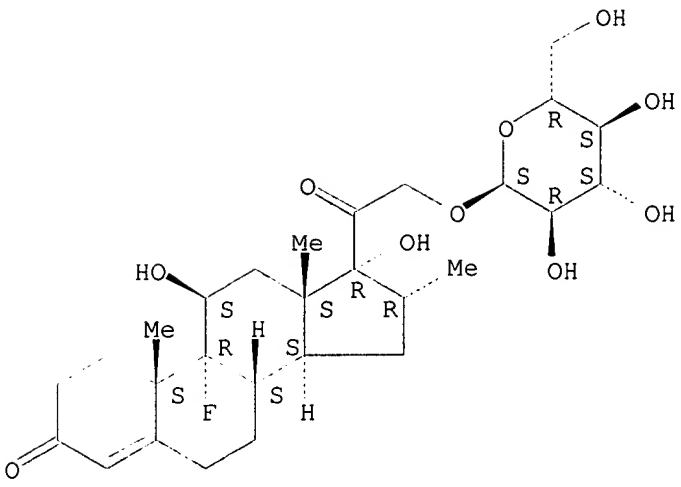
PAGE 1-A



PAGE 2-A

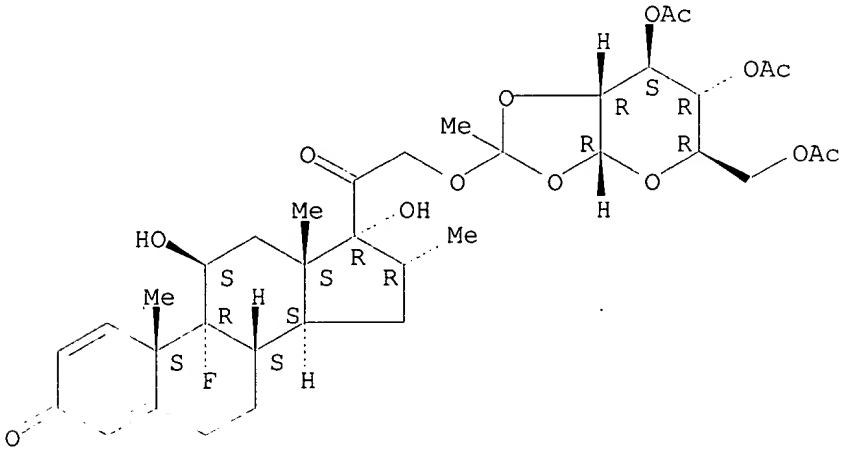
RN 169453-47-8 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.alpha.-D-glucopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 169453-48-9 HCAPLUS
CN .alpha.-D-Glucopyranose, 1,2-O-[1-[[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]oxy]ethylidene]-, 3,4,6-triacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 169453-49-0 HCAPLUS
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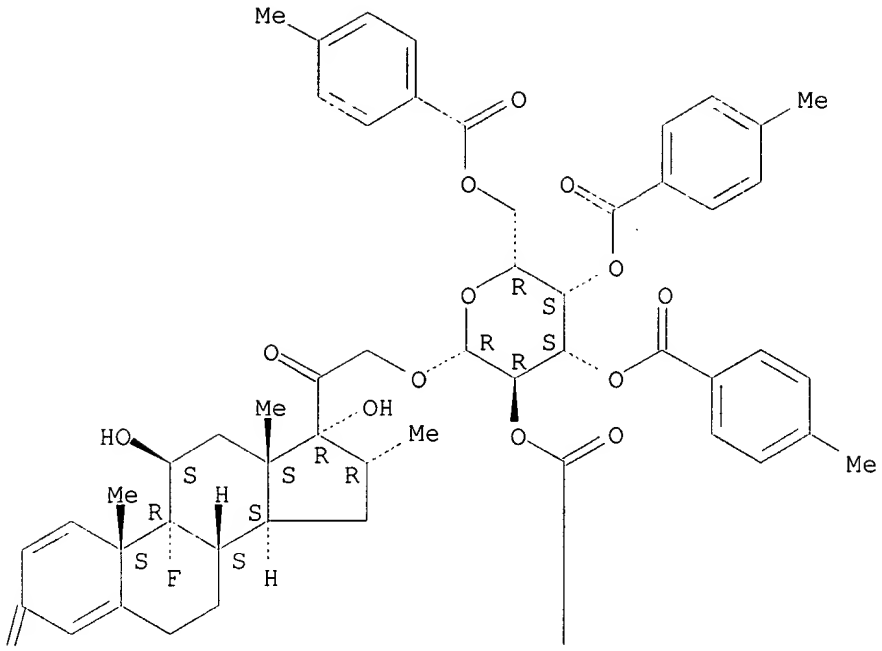
Absolute stereochemistry.

PAGE 1-A



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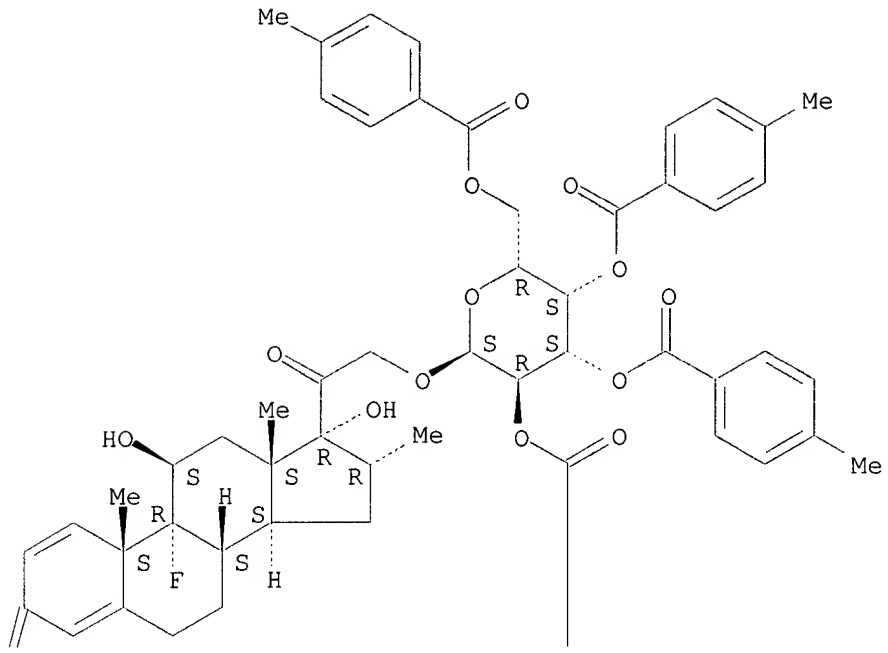
RN 169453-50-3 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(4-methylbenzoyl)-.alpha.-D-galactopyranosyl]oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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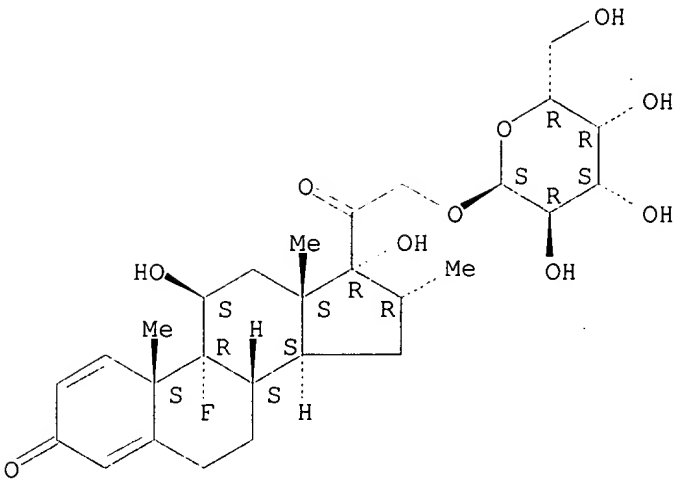
RN 169453-51-4 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.alpha.-D-galactopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 169453-52-5 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(4-methylbenzoyl)-.alpha.-D-mannopyranosyl]oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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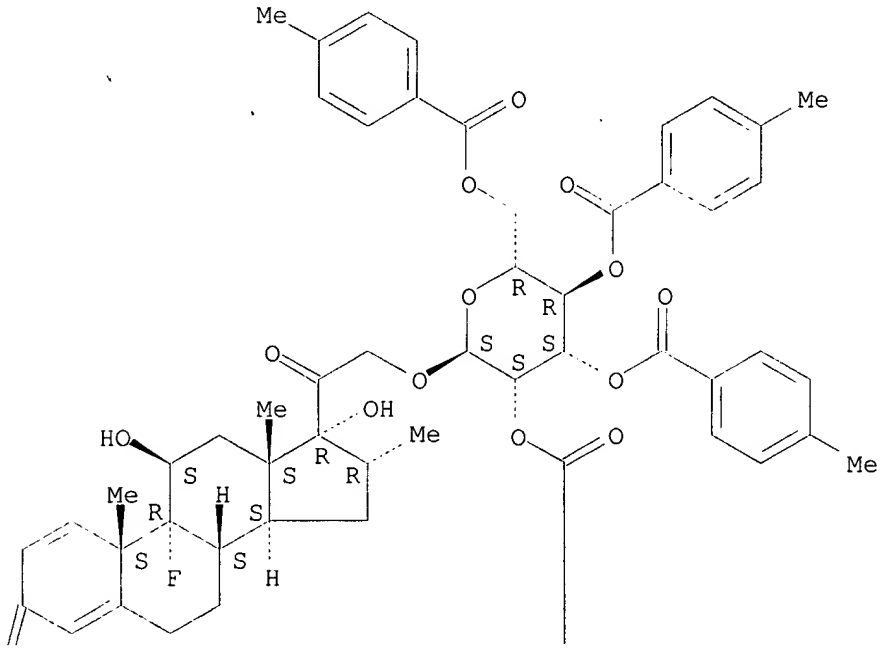

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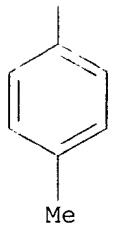
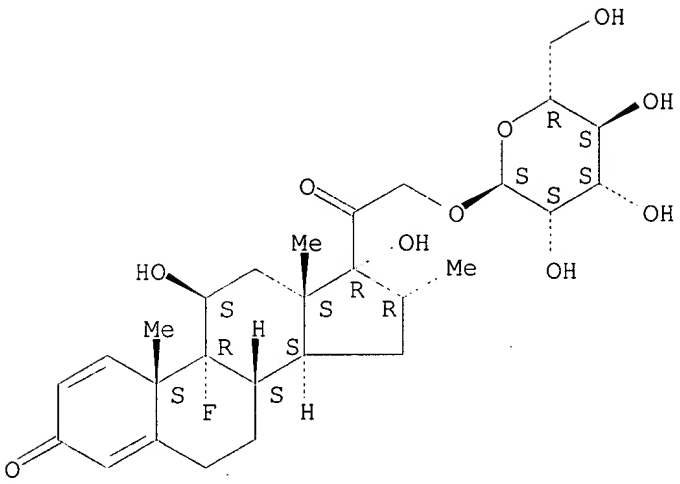


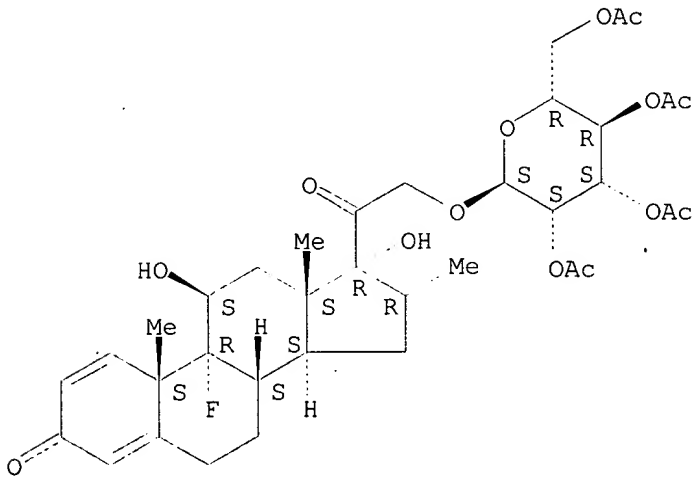
RN 169453-53-6 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.alpha.-D-mannopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



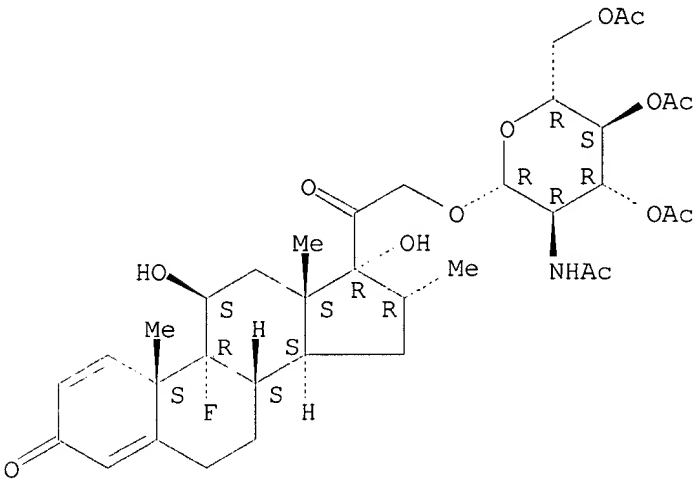
RN 169453-54-7 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4,6-tetra-O-acetyl-.alpha.-D-mannopyranosyl)oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



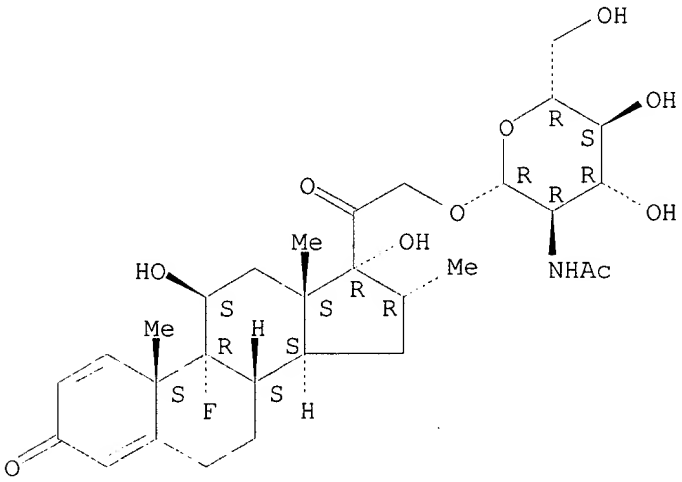
RN 169453-55-8 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[3,4,6-tri-O-acetyl-2-(acetylamino)-2-deoxy-.beta.-D-glucopyranosyl]oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



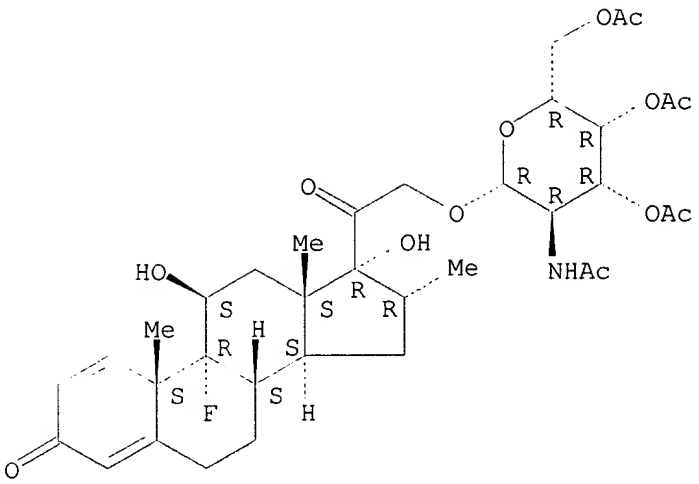
RN 169453-56-9 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[[2-(acetylamino)-2-deoxy-.beta.-D-glucopyranosyl]oxy]-9-fluoro-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



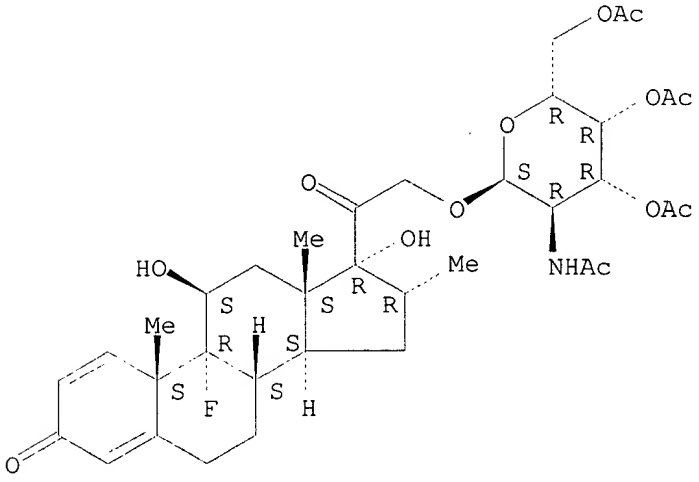
RN 169453-57-0 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[3,4,6-tri-O-acetyl-2-(acetylamino)-2-deoxy-.beta.-D-galactopyranosyl]oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



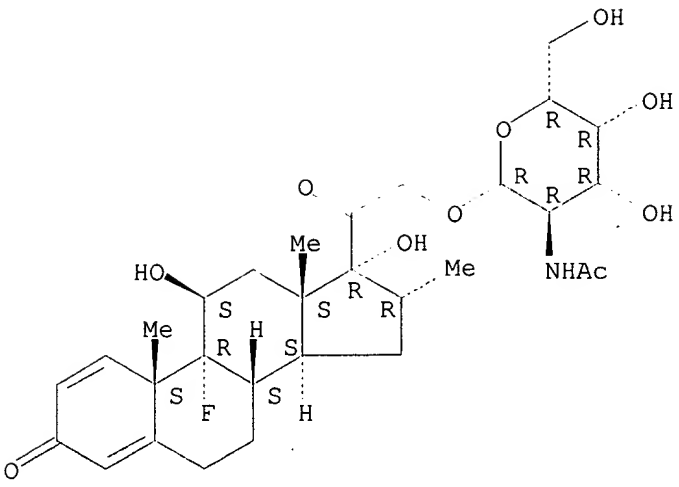
RN 169453-58-1 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[3,4,6-tri-O-acetyl-2-(acetylamino)-2-deoxy-.alpha.-D-galactopyranosyl]oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



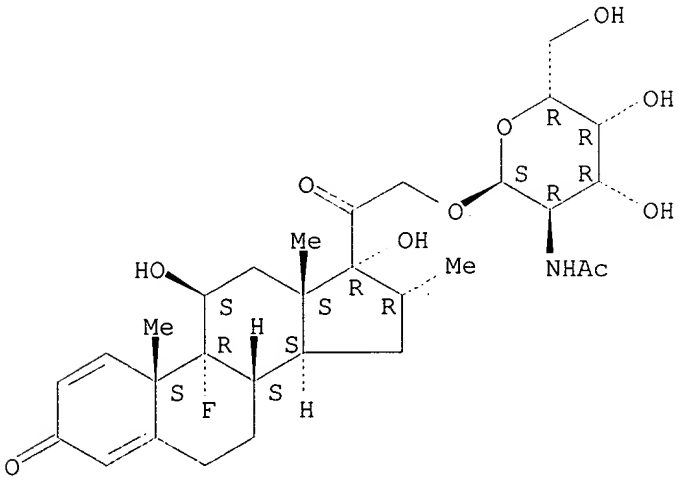
RN 169453-59-2 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[[2-(acetylamino)-2-deoxy-.beta.-D-galactopyranosyl]oxy]-9-fluoro-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



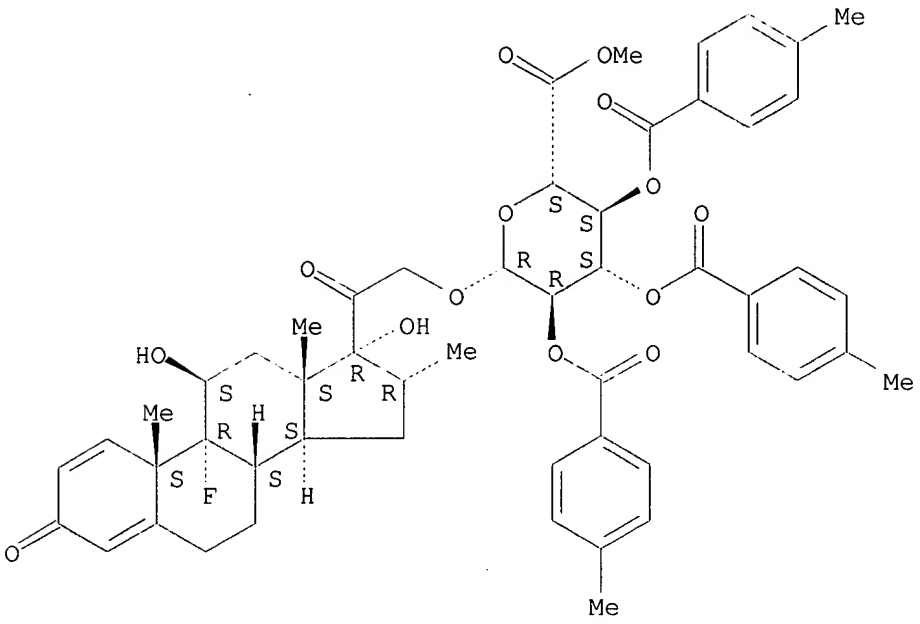
RN 169453-60-5 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[[2-(acetylamino)-2-deoxy-.alpha.-D-galactopyranosyl]oxy]-9-fluoro-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



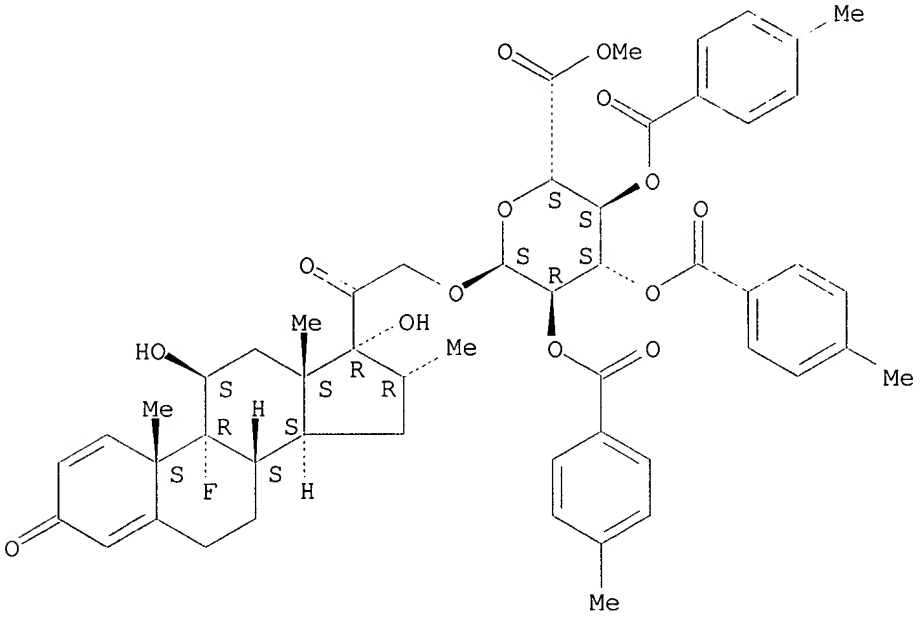
RN 169453-63-8 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-tris(4-methylbenzoate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



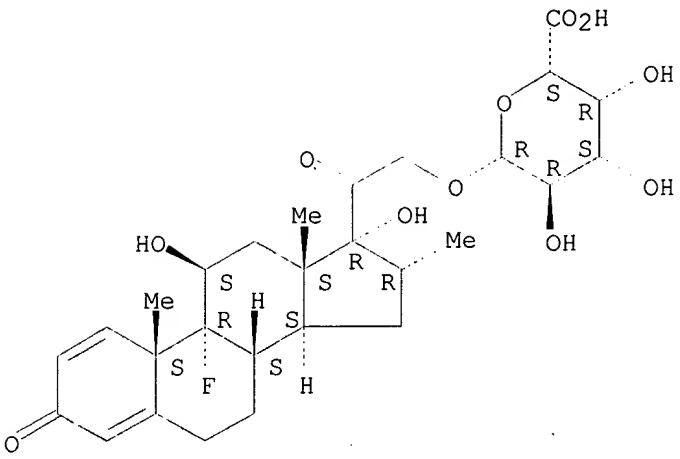
RN 169453-64-9 HCAPLUS
CN .alpha.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-tris(4-methylbenzoate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



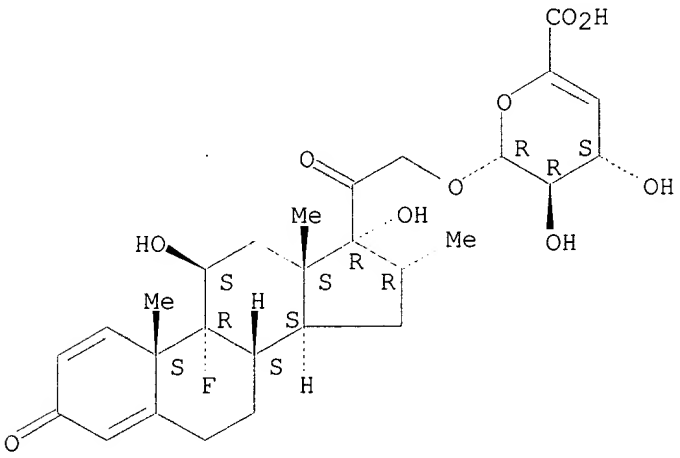
RN 169453-65-0 HCAPLUS
CN .beta.-D-Galactopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



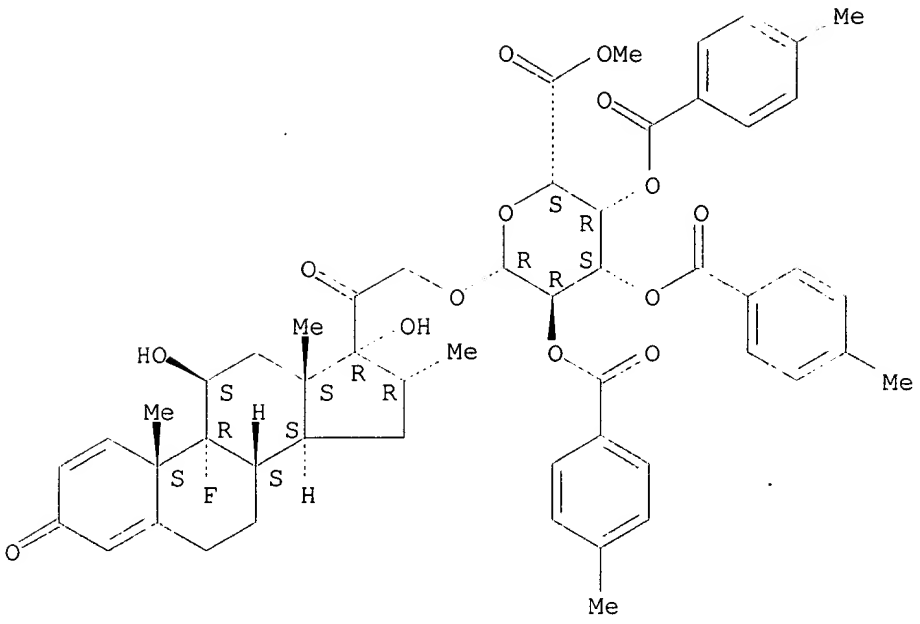
RN 169453-66-1 HCAPLUS
CN .alpha.-L-threo-Hex-4-enopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl 4-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



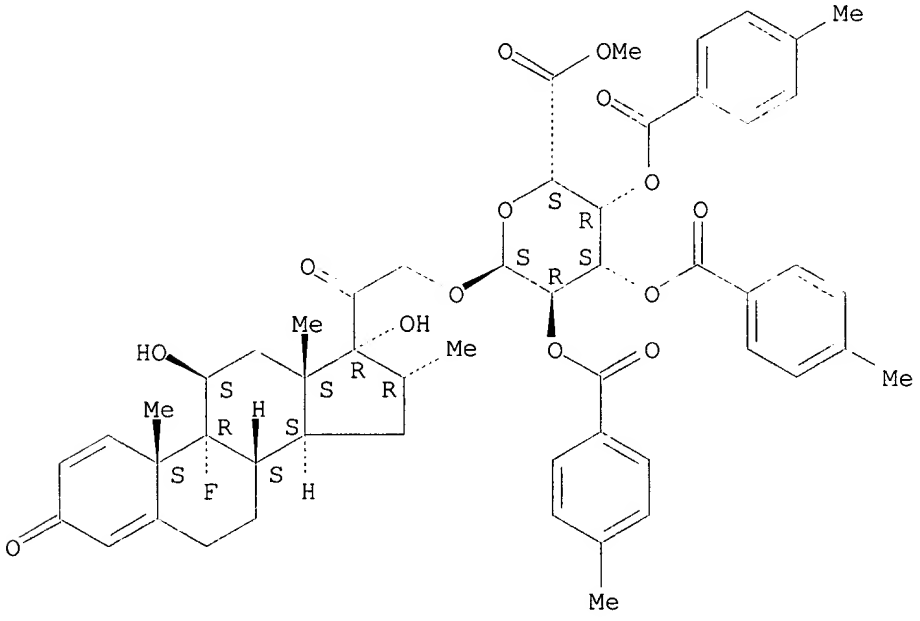
RN 169453-67-2 HCAPLUS
CN .beta.-D-Galactopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-tris(4-methylbenzoate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



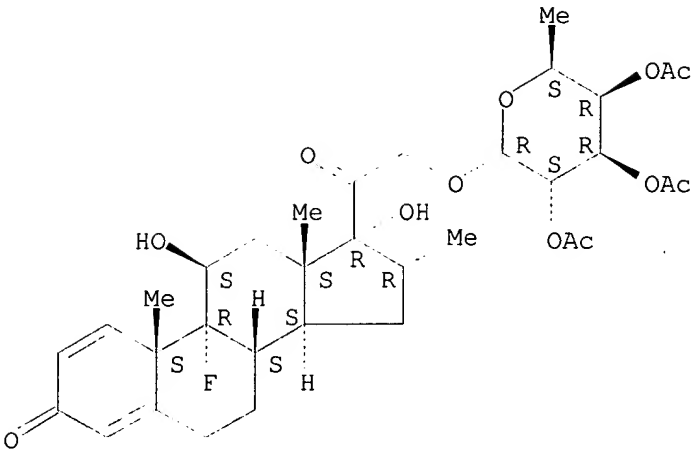
RN 169453-68-3 HCAPLUS
CN .alpha.-D-Galactopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-tris(4-methylbenzoate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



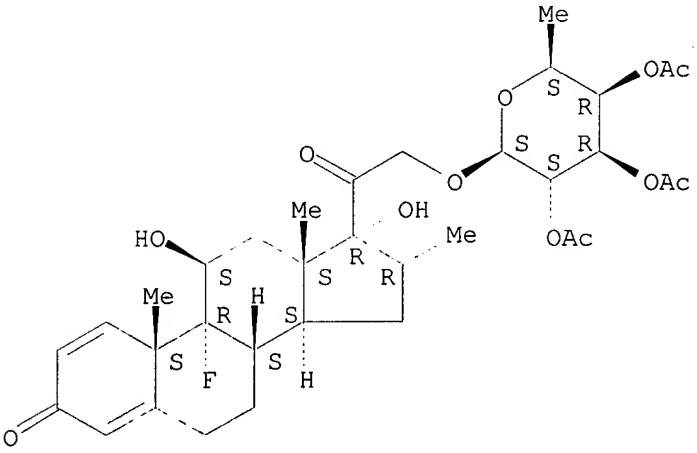
RN 169453-69-4 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4-tri-O-acetyl-6-deoxy-.alpha.-L-galactopyranosyl)oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



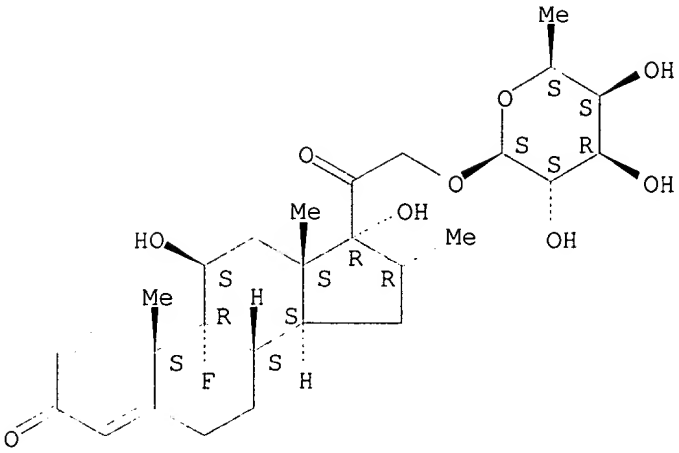
RN 169453-70-7 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4-tri-O-acetyl-6-deoxy-.beta.-L-galactopyranosyl)oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



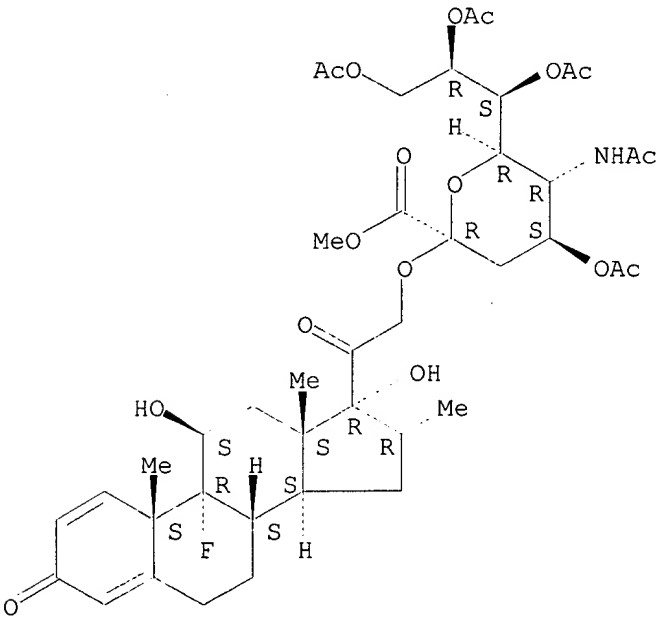
RN 169453-71-8 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[(6-deoxy-.beta.-L-galactopyranosyl)oxy]-9-fluoro-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



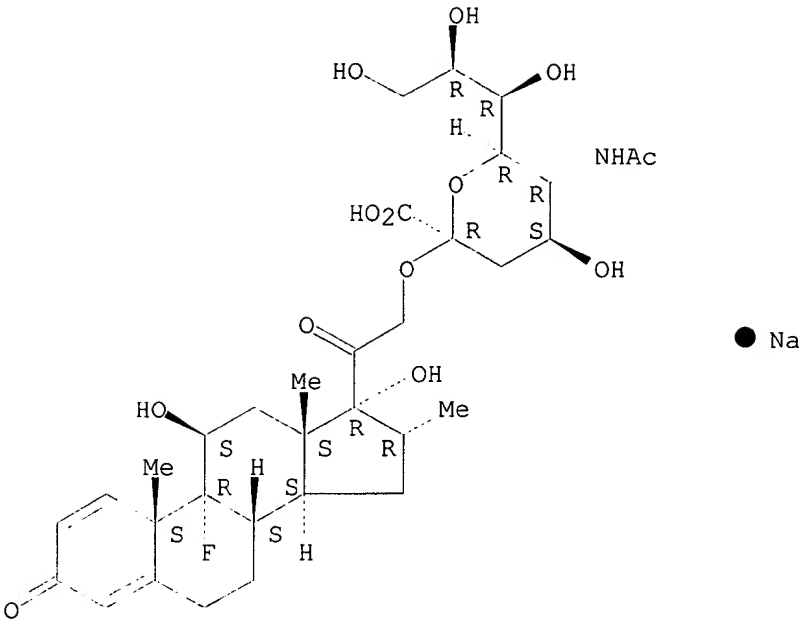
RN 169453-72-9 HCAPLUS
CN .alpha.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]-, methyl ester, 4,7,8,9-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



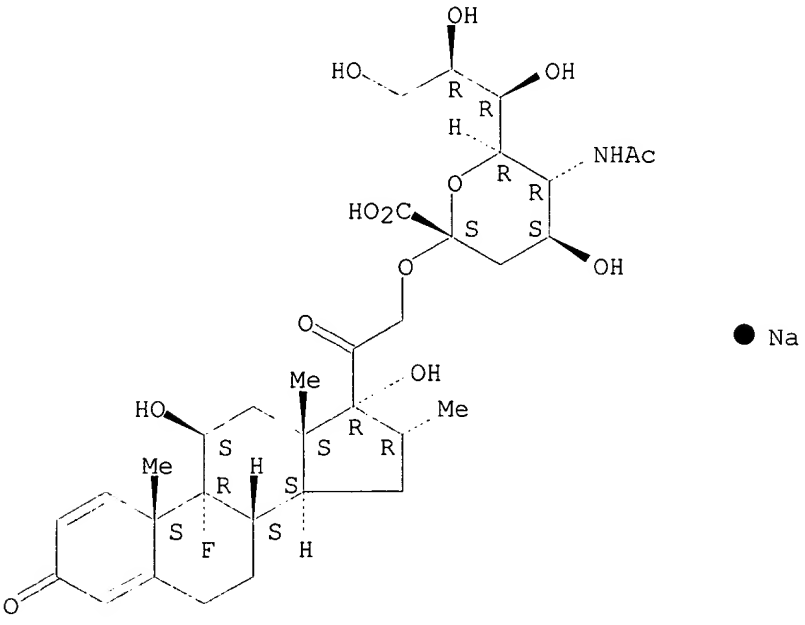
RN 169453-73-0 HCAPLUS
CN .alpha.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



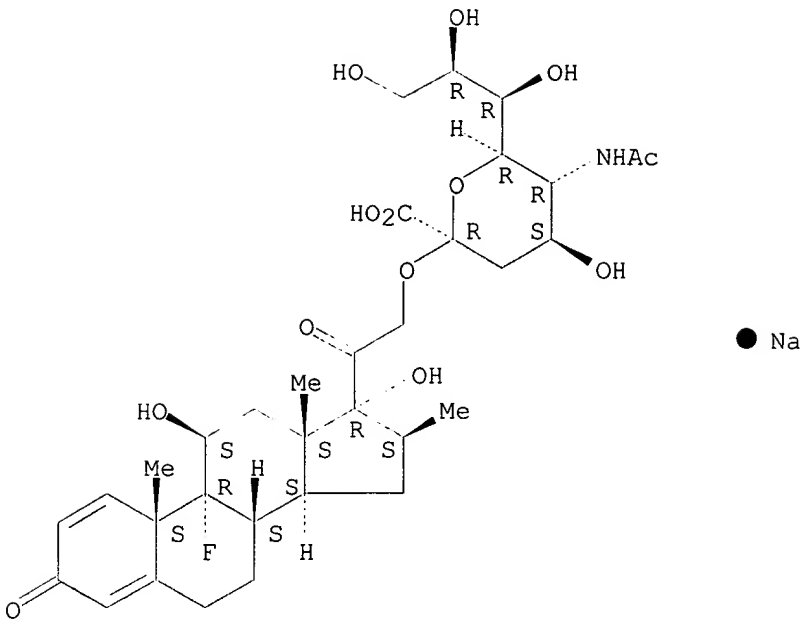
RN 169453-74-1 HCAPLUS
CN .beta.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 169453-75-2 HCAPLUS
CN .alpha.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.beta.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 169453-76-3 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(4-methylbenzoyl)-.beta.-D-glucopyranosyl]oxy]-, (11.beta.,16.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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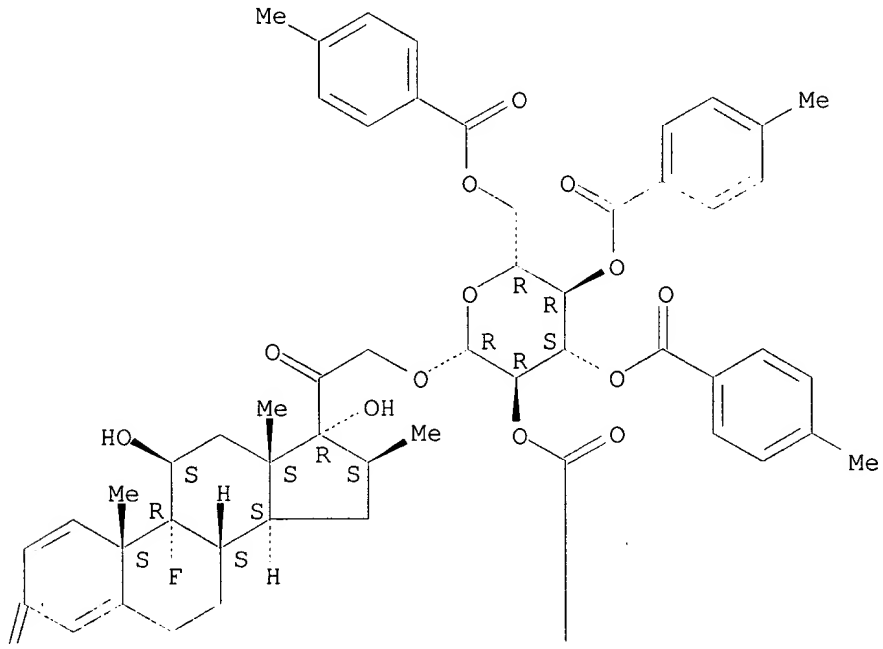

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RN 169453-77-4 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(4-methylbenzoyl)-.alpha.-D-glucopyranosyl]oxy]-, (11.beta.,16.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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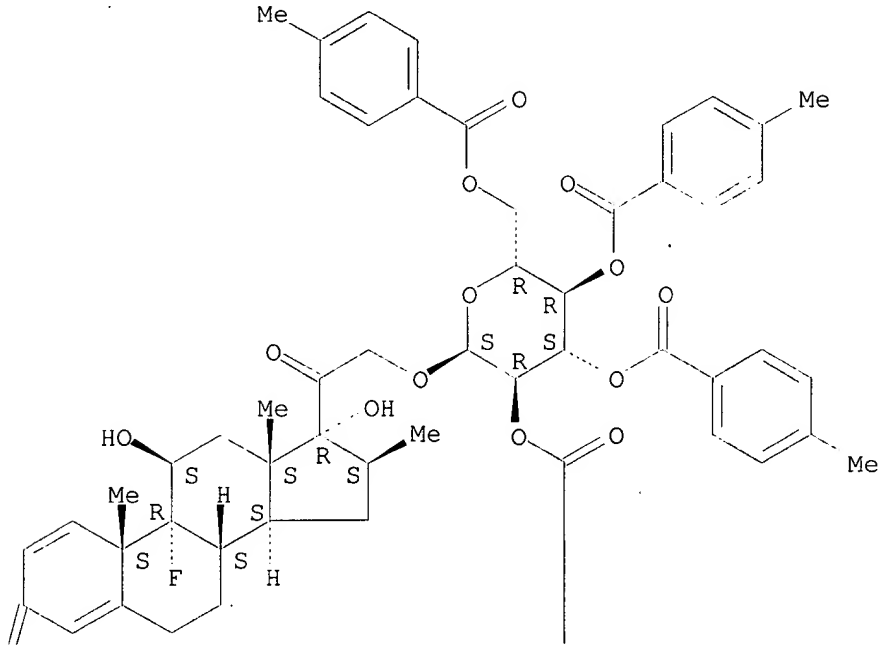

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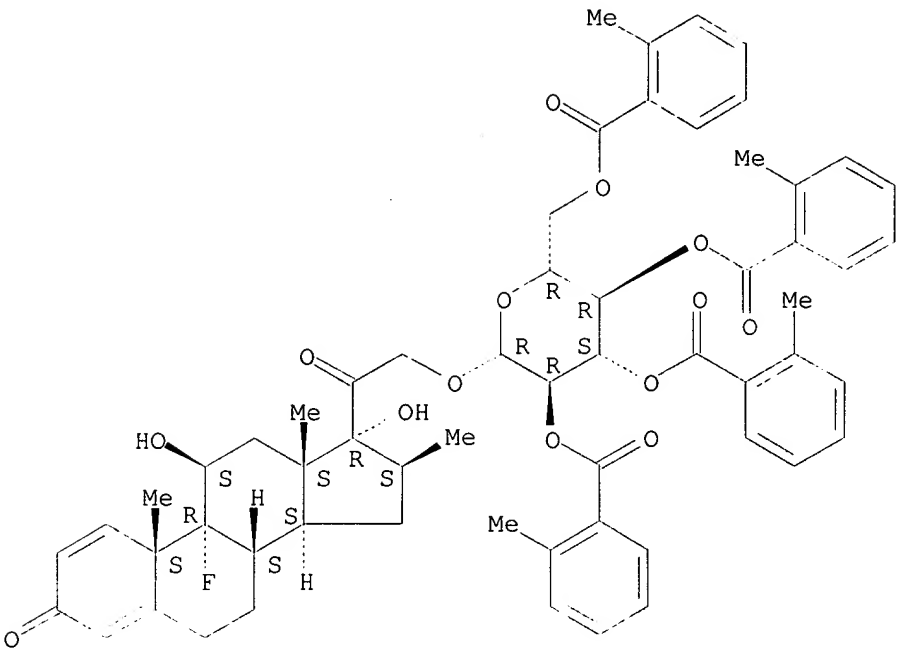
RN 169453-78-5 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(2-methylbenzoyl)-.beta.-D-glucopyranosyl]oxy]-,

(11.beta.,16.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 169453-79-6 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(3-methylbenzoyl)-.beta.-D-glucopyranosyl]oxy]-, (11.beta.,16.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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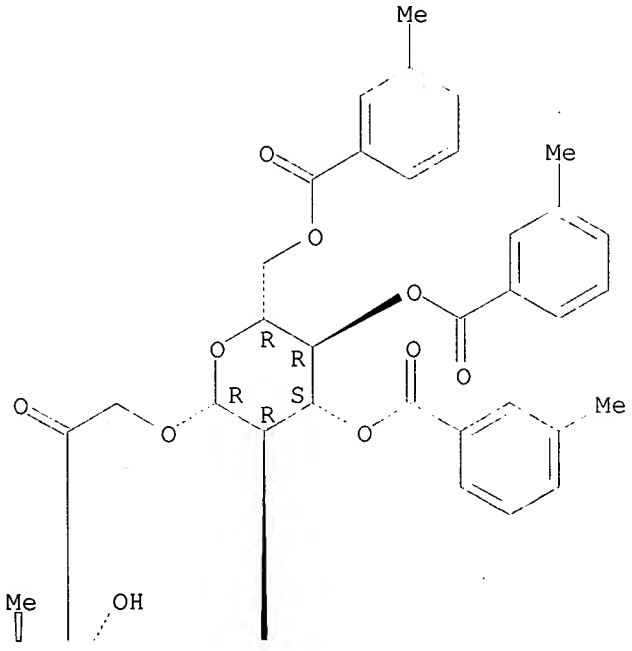

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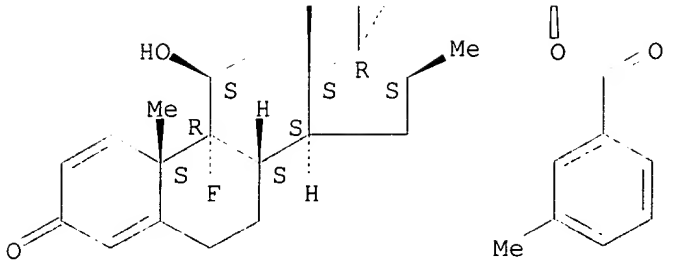
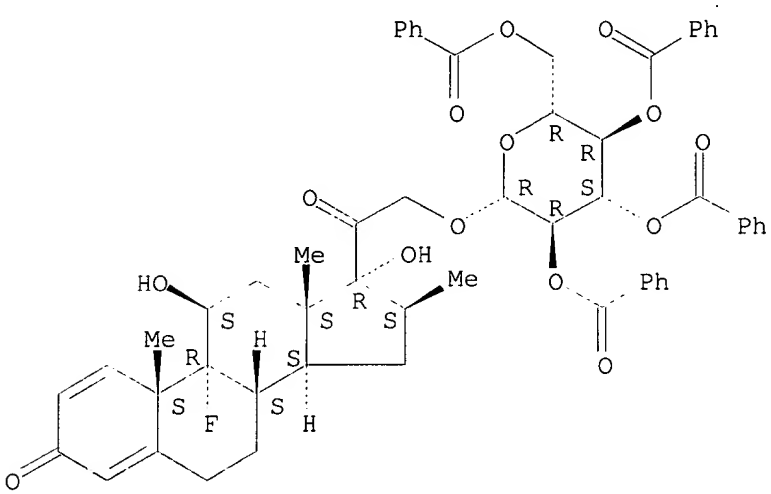


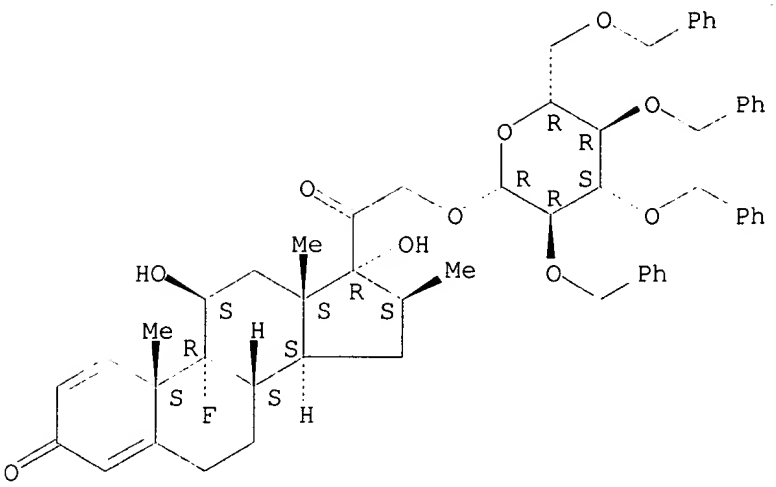
RN 169453-80-9 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4,6-tetra-O-benzoyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.,16.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 169453-81-0 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(phenylmethyl)-.beta.-D-glucopyranosyl]oxy]-, (11.beta.,16.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 169453-82-1 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 6,9-difluoro-11,17-dihydroxy-21-[[2,3,4,6-tetrakis-O-(4-methylbenzoyl)-.beta.-D-glucopyranosyl]oxy]-, (6.alpha.,11.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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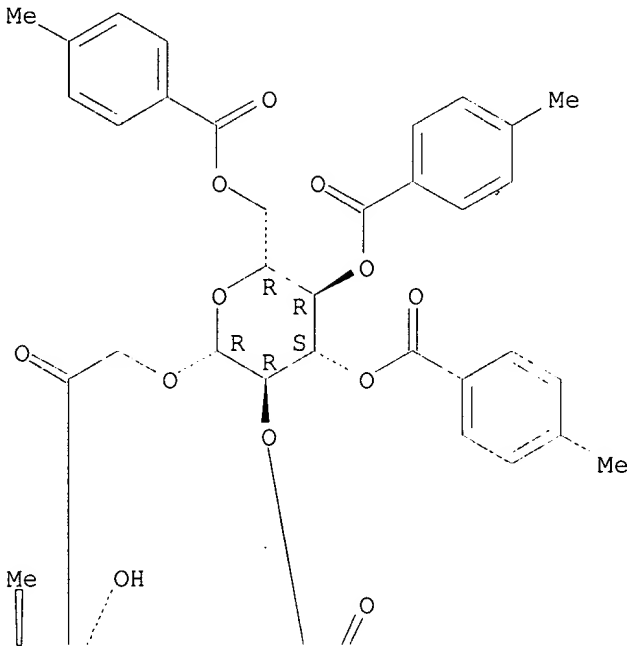

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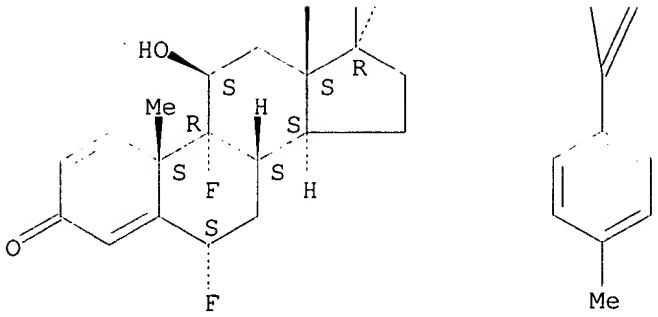

RN 169453-83-2 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 6,9-difluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(4-methylbenzoyl)-.beta.-D-glucopyranosyl]oxy]-, (6.alpha.,11.beta.,16.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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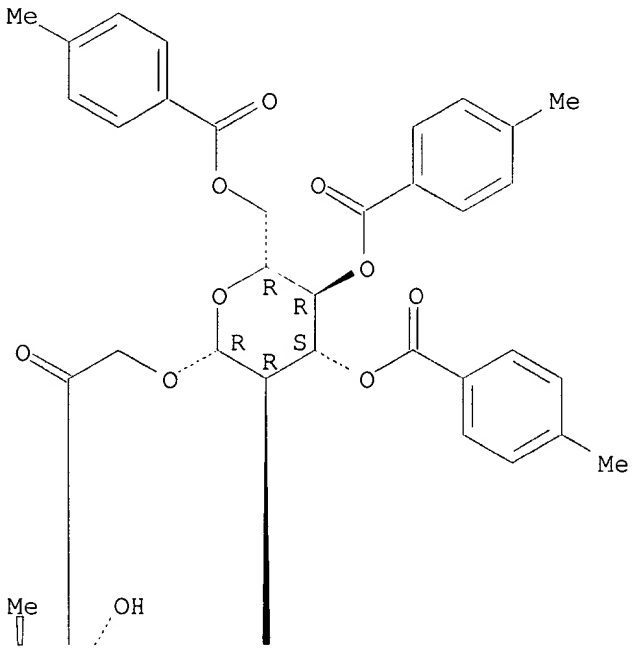

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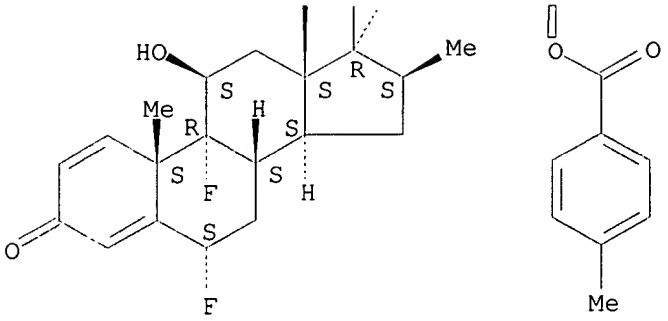
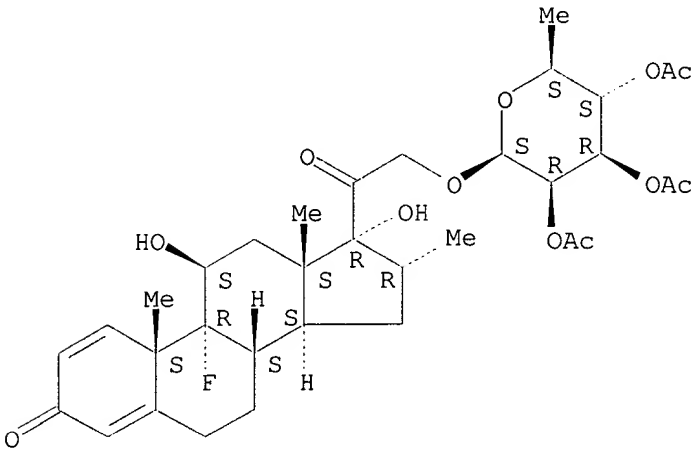


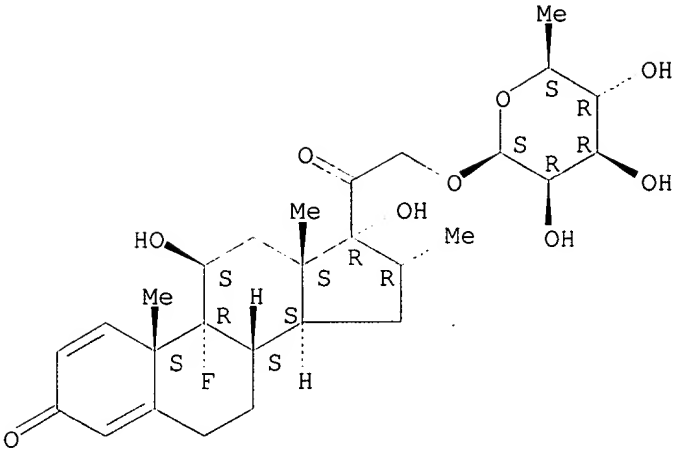
RN 169453-90-1 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4-tri-O-acetyl-6-deoxy-.beta.-L-mannopyranosyl)oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



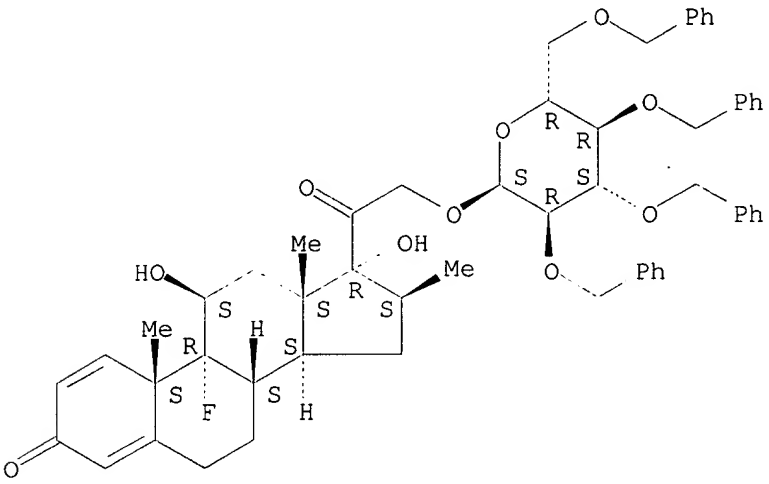
RN 169453-91-2 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[(6-deoxy-.beta.-L-mannopyranosyl)oxy]-9-fluoro-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 169454-03-9 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[[2,3,4,6-tetrakis-O-(phenylmethyl)-.alpha.-D-glucopyranosyl]oxy]-, (11.beta.,16.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 6 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:762890 HCAPLUS
DN 123:161106
TI A novel colon-specific steroid prodrug enhances sodium chloride absorption in rat colitis
AU Fedorak, Richard N.; Cui, Ningren; Friend, David R.; Madsen, Karen L.; Empey, Lonnie R.
CS Dep. Medicine, Univ. Alberta, Edmonton, AB, T6G 2C2, Can.
SO American Journal of Physiology (**1995**), 269(2, Pt. 1), G210-G218
CODEN: AJPHAP; ISSN: 0002-9513
PB American Physiological Society
DT Journal
LA English
CC 2-4 (Mammalian Hormones)
AB A recently synthesized novel colon-specific dexamethasone prodrug, dexamethasone-.beta.-D-glucuronide, delivers efficacious amts. of dexamethasone to the colon with limited adrenal suppressive effects.

During exptl. induced colitis in rats, the dexamethasone prodrug is significantly more potent than free dexamethasone in improving colonic fluid and electrolyte absorptive injury. The present studies examd. whether the improvement in colonic absorption seen with the prodrug occurred as a consequence of alterations in sodium and chloride epithelial transport. The efficacy of the dexamethasone prodrug and free dexamethasone were tested in an acetic acid-induced rat model of colitis. Healing of the induced colitis was assessed by measuring net colonic fluid absorption and surface area ulceration. Transmural unidirectional fluxes of 22Na and 36Cl across sheets of colonic mucosa were measured in Ussing chambers. Treatment of colitis with the prodrug delivered a 6-fold higher concn. of dexamethasone to the colon than did treatment with the free drug. The prodrug accelerated healing of colitis by returning in vivo colonic fluid absorption to normal and virtually eliminated colonic macroscopic ulceration, whereas the free drug did not. In vitro transmural fluxes demonstrated that, in addn. to repair of mucosal integrity, the prodrug enhanced electroneutral NaCl absorption over and above that seen in control animals or after treatment with the free drug. Both the prodrug and the free drug limited theophylline-mediated net Cl- and Na+ secretion, an effect that would be consistent with the antidiarrheal effect induced by these drugs in vivo. Apparently, treatment of exptl. induced colitis with the novel colon-specific prodrug, dexamethasone-.beta.-D-glucuronide, has distinct mucosal healing and antidiarrheal advantages over administration of its parent, free dexamethasone. Specifically, dexamethasone prodrug treatment enhances NaCl absorptive effects and limits cAMP-mediated secretion of colonic epithelia.

ST dexamethasone glucuronide colitis salt absorption

IT Intestine, disease
(colitis, colon-specific dexamethasone glucuronide enhances NaCl absorption in rat colitis)

IT 50-02-2, Dexamethasone **152154-28-4**, Dexamethasone-.beta.-D-glucuronide
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(colon-specific dexamethasone glucuronide enhances NaCl absorption in rat colitis)

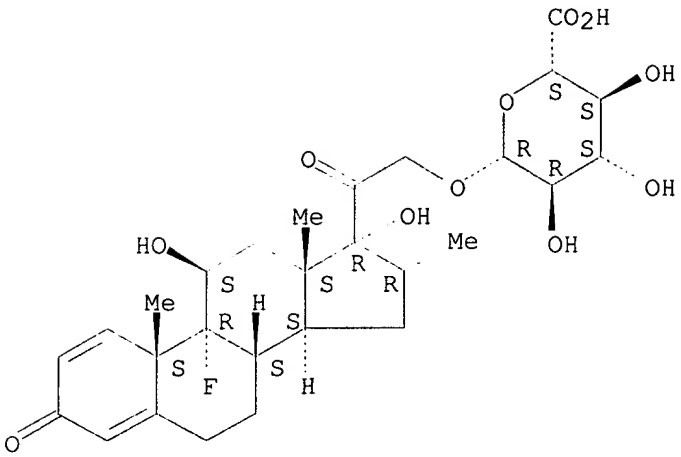
IT 7647-14-5, Sodium chloride (NaCl), biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(colon-specific dexamethasone glucuronide enhances NaCl absorption in rat colitis)

IT **152154-28-4**, Dexamethasone-.beta.-D-glucuronide
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(colon-specific dexamethasone glucuronide enhances NaCl absorption in rat colitis)

RN 152154-28-4 HCAPLUS

CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl (9CI) (CA INDEX NAME)

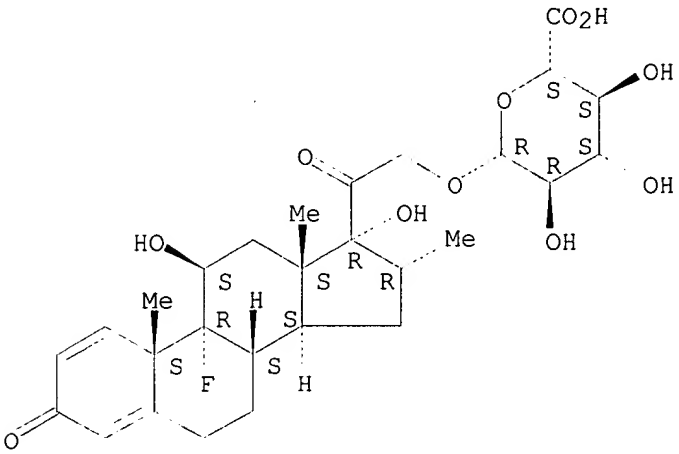
Absolute stereochemistry.



L103 ANSWER 7 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:646178 HCAPLUS
DN 123:48079
TI Colonic delivery of dexamethasone from a prodrug accelerates healing of colitis in rats without adrenal suppression
AU Fedorak, Richard N.; Haeberlin, Barbara; Empey, Lonnie R.; Cui, Ningren; Nolen, Harold; Jewell, Laurence D.; Friend, David R.
CS Controlled Release and Biomedical Polymers Department, SRI International, Menlo Park, CA, USA
SO Gastroenterology (**1995**), 108(6), 1688-99
CODEN: GASTAB; ISSN: 0016-5085
DT Journal
LA English
CC 2-4 (Mammalian Hormones)
AB Dexamethasone-.beta.-D-glucuronide, a colon-specific prodrug of dexamethasone, may be useful in the treatment of ulcerative colitis and Crohn's colitis. The aim of this study was to evaluate colonic delivery and efficacy of this prodrug in the rat. Distribution of dexamethasone in luminal contents and tissues of the gastrointestinal tract and in plasma was measured after oral administration of dexamethasone-.beta.-D-glucuronide or free dexamethasone. Efficacy of the prodrug and free drug was tested in an acetic acid-induced rat colitis model. Healing of induced colitis was assessed by measuring net intestinal fluid absorption, colonic surface area of ulceration, histol., and myeloperoxidase activity. Glucocorticosteroid toxicity was evaluated with serum corticosterone and plasma adrenocorticotropic hormone levels. The drug delivery index (a measure of relative targeting efficiency) was 6.7 and 8.6 in the cecal and colonic mucosa, resp. The prodrug was significantly more potent than free drug in improving net colonic fluid absorption while significantly reducing surface area of ulceration and histol. grade in colitic rats. Treatment with free dexamethasone significantly reduced serum corticosterone levels to subnormal levels, and treatment with the prodrug maintained serum corticosterone and plasma adrenocorticotropic hormone levels near control levels. The prodrug dexamethasone-.beta.-D-glucuronide delivers efficacious amts. of dexamethasone to the large intestine from lower doses than free dexamethasone.
ST colon delivery dexamethasone prodrug colitis
IT Intestine, disease
(colitis, dexamethasone prodrug colonic delivery effect on)
IT **152154-28-4**, Dexamethasone-.beta.-D-glucuronide
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); BIOL (Biological study)
(effect on colitis by colonic delivery without suppressing adrenal

cortex)
IT **152154-28-4**, Dexamethasone-.beta.-D-glucuronide
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); BIOL (Biological study)
(effect on colitis by colonic delivery without suppressing adrenal cortex)
RN 152154-28-4 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 8 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:135071 HCAPLUS
DN 120:135071
TI Preparation of novel longer-acting sialylsteroids
IN Numata, Masaaki; Ishii, Takayuki; Sugimoto, Mamoru; Sugai, Keiρ Sugiyama, Naokazu; Ogawa, Tomoya
PA Mect Corp., Japan
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C07H015-203
ICS C07J017-00
CC 33-8 (Carbohydrates)
Section cross-reference(s): 1, 32
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9321198	A1	19931028	WO 1993-JP466	19930413 <--
	W: AU, CA, FI, HU, KR, NO, RU, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 05286992	A2	19931102	JP 1992-92953	19920413 <--
	AU 9339042	A1	19931118	AU 1993-39042	19930413 <--
PRAI	JP 1992-92953		19920413 <--		
	WO 1993-JP466		19930413 <--		

OS MARPAT 120:135071
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. I and II [R1 = steroid residue such as Q, Q1, Q2; R2 = H, Ac; R3 = H, alkyl], having the usual steroidal effect but longer-acting than the existing analogs, are prepd. **E**.g., a mixt. of Q-OH and 2-chloro-4,7,8,9-tetra-O-acetyl-N-acetylneuraminic acid Me ester in CH2Cl2 contg. mol. sieves 4A, Hg(CN)2, and HgBr2 was stirred at -10.degree. for 40 h to give I and II [R1 = Q, R2 = Ac, R3 = Me]. In a study using guinea pigs the **antiinflammatory** activity of sialyldexamethasone (.alpha.-form) was ca. 1/10 that of dexamethasone phosphate in inhibiting the carrageenin-induced **inflammation**.

ST sialylsteroid prepn **antiinflammatory antiallergy**; steroid sialyl prepn

IT Steroids, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(sialyl, prepn. of, as **antiinflammatory** and **antiallergic** agents)

IT **Allergy inhibitors**
Inflammation inhibitors
(sialylsteroids)

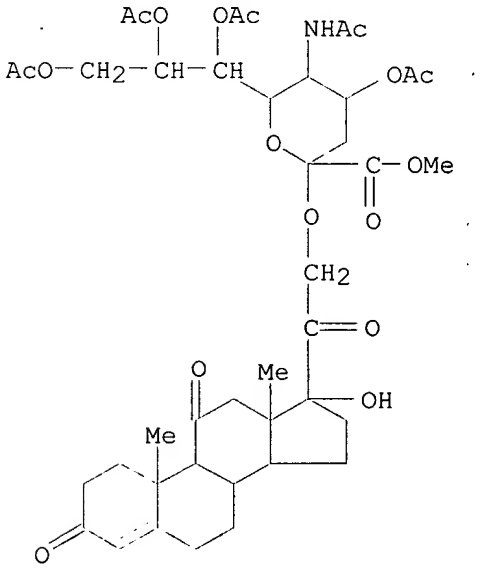
IT **153247-80-4P 153247-81-5P 153247-82-6P**
153247-83-7P 153247-84-8P 153247-85-9P 153247-86-0P
153247-87-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as **antiinflammatory** and **antiallergic** agent)

IT 50-02-2, Dexamethasone 53-06-5 67-97-0, Vitamin D3 132883-18-2, 2-Chloro-4,7,8,9-tetra-O-acetyl-N-acetylneuraminic acid methyl ester
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant, in prepn. of sialylsteroids as **antiinflammatory** and **antiallergic** agents)

IT **153247-80-4P 153247-81-5P 153247-82-6P**
153247-83-7P 153247-84-8P 153247-87-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as **antiinflammatory** and **antiallergic** agent)

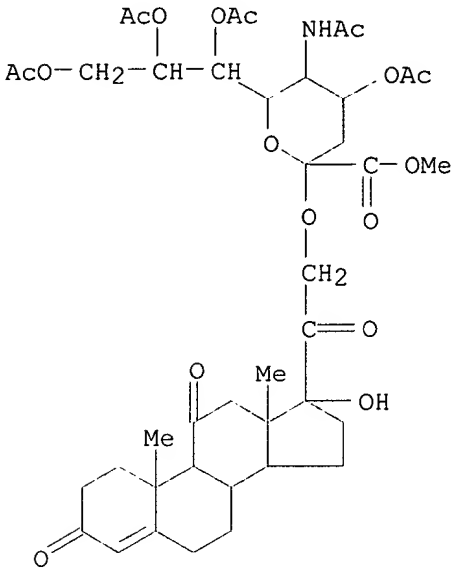
RN 153247-80-4 HCAPLUS

CN .alpha.-Neuraminic acid, N-acetyl-2-O-(17-hydroxy-3,11,20-trioxopregn-4-en-21-yl)-, methyl ester, 4,7,8,9-tetraacetate (9CI) (CA INDEX NAME)

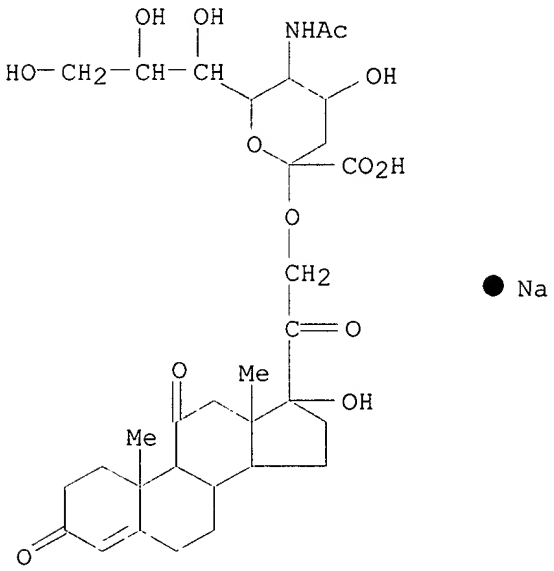


RN 153247-81-5 HCAPLUS

CN .beta.-Neuraminic acid, N-acetyl-2-O-(17-hydroxy-3,11,20-trioxopregn-4-en-21-yl)-, methyl ester, 4,7,8,9-tetraacetate (9CI) (CA INDEX NAME)

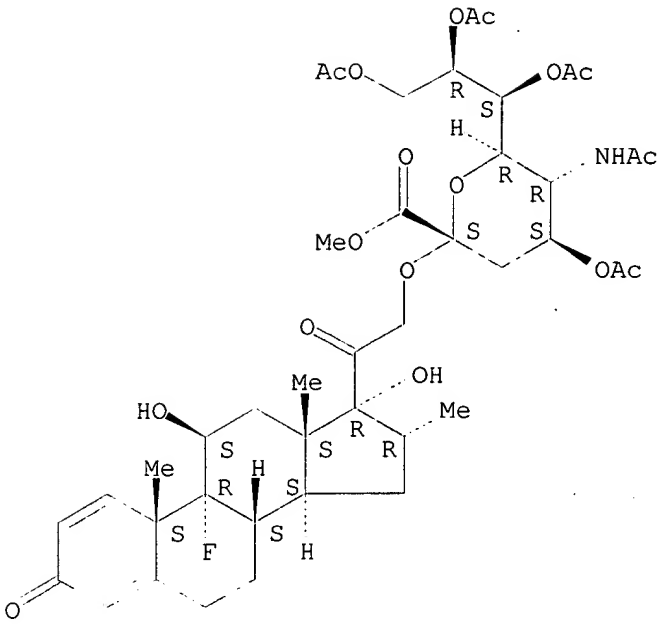


RN 153247-82-6 HCAPLUS
CN .beta.-Neuraminic acid, N-acetyl-2-O-(17-hydroxy-3,11,20-trioxopregn-4-en-21-yl)-, monosodium salt (9CI) (CA INDEX NAME)



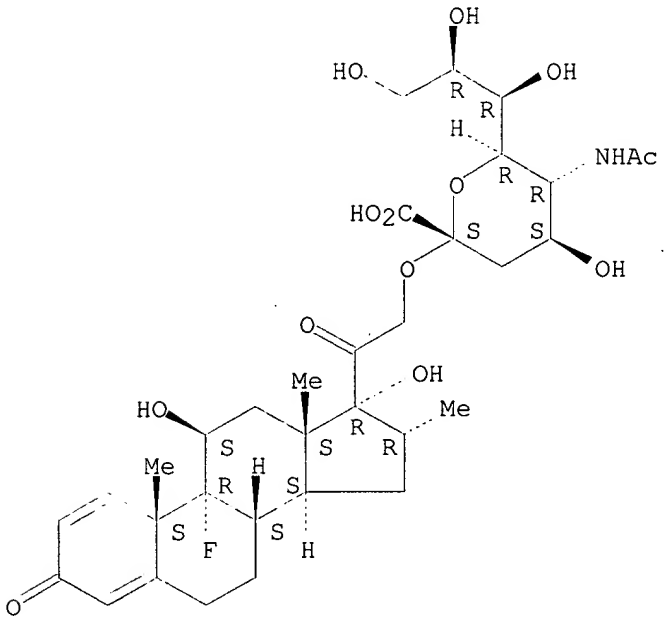
RN 153247-83-7 HCAPLUS
CN .beta.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]-, methyl ester, 4,7,8,9-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



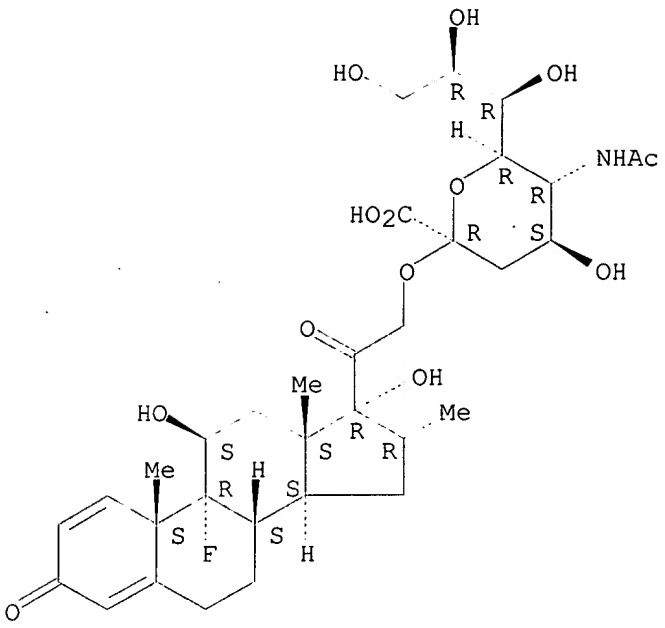
RN 153247-84-8 HCAPLUS
CN .beta.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 153247-87-1 HCAPLUS
CN .alpha.-Neuraminic acid, N-acetyl-2-O-[(11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 9 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN **1994:38138** HCAPLUS
DN **120:38138**
TI Pharmaceutical compositions and methods for colonic delivery of corticosteroids
IN Friend, David R.; Fedorak, Richard N.
PA SRI International, USA
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07J017-00
ICS C07J071-00; A61K031-58; A61K031-70
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 32, 33
FAN.CNT 1

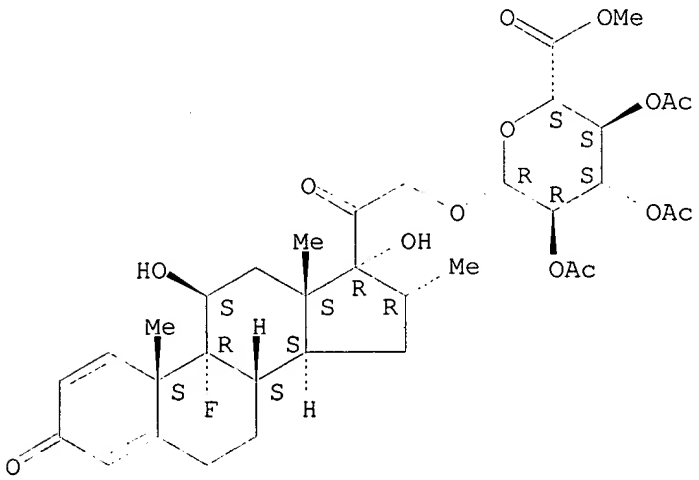
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9322334	A1	19931111	WO 1993-US4202	19930503

W: CA, JP, KR, US
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRAI US 1992-878344 19920504
OS MARPAT 120:38138
AB Pharmaceutical compns. and methods are provided for the colon-specific delivery of corticosteroids. Corticosteroids are administered in the form of prodrug conjugates with sugares which undergo reaction with enzymes produced by colonic microflora, thereby releasing the free drug. Dexamethasone Me acetyl glucuronate (prepn. given) was dissolved in methanolic NaOH followed by addn. of water and neutralization of the basic soln. to 7.5 with AcOH. The solvent was then removed and the residue was purified to obtain dexamethasone-.beta.-D-glucuronide (I). Serum ACTH level and I in rats with AcOH-induced colitis receiving 0.44.mu.mol/kg I/day orally was 447 and 3.8 as compared to 1246ng/mL and 8.5.mu.g/L, resp, for control.
ST colonic delivery corticosteroid conjugate; dexamethasone glucuronide colonic delivery
IT Intestine
(cecum, drug delivery to, corticosteroid conjugates for)

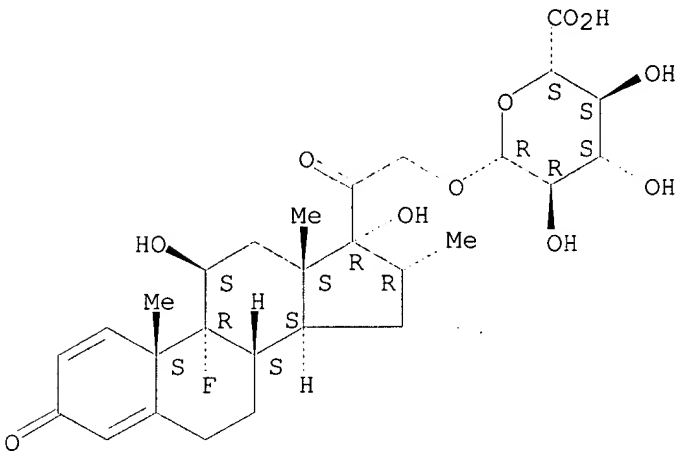
IT Intestine
(colon, drug delivery to, corticosteroid conjugates for)
IT Steroids, compounds
RL: PREP (Preparation)
(conjugates, prepn. of, for colonic delivery)
IT Carbohydrates and Sugars, compounds
RL: PREP (Preparation)
(conjugates, with corticosteroids, prepn. of, for colonic delivery)
IT Pharmaceutical dosage forms
(unit doses, corticosteroid conjugates with sugars in, for colonic delivery)
IT 9033-06-1, Glucosidase
RL: RCT (Reactant); RACT (Reactant or reagent)
(corticosteroid conjugates hydrolysis by, in colon, for colonic delivery)
IT **6804-44-0P** 152129-69-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)
IT 50-02-2DP, Dexamethasone, conjugates with sugars 50-24-8DP, Prednisolone, conjugates with sugars 83-43-2DP, Methyl prednisolone, conjugates with sugars 378-44-9DP, Betamethasone, conjugates with sugars 3385-03-3DP, Flunisolide, conjugates with sugars 4419-39-0DP, Beclomethasone, conjugates with sugars 51333-22-3DP, Budesonide, conjugates with sugars 152129-70-9P **152154-28-4P**
RL: PREP (Preparation)
(prepn. of, for colonic delivery)
IT 21085-72-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dexamethasone)
IT 50-02-2, Dexamethasone 51333-22-3, Budesonide
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with glcopyranoxyl bromide deriv.)
IT **6804-44-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)
RN 6804-44-0 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **152154-28-4P**
RL: PREP (Preparation)
(prepn. of, for colonic delivery)
RN 152154-28-4 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 10 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:37977 HCAPLUS
DN 120:37977
TI In vitro evaluation of dexamethasone-.beta.-D-glucuronide for colon-specific drug delivery
AU Haeberlin, Barbara; Rubas, Werner; Nolen, Harold W., III; Friend, David R.
CS Biomed. Polym. Dep., SRI Int., Menlo Park, CA, 94025, USA
SO Pharmaceutical Research (**1993**), 10(11), 1553-62
CODEN: PHREEB; ISSN: 0724-8741
DT Journal
LA English
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 1, 32, 33
AB Dexamethasone .beta.-D-glucuronide (I) is a potential prodrug for colonic delivery of the anti-**inflammatory** corticosteroid dexamethasone. Previous studies indicated that a glucoside prodrug of dexamethasone was susceptible to hydrolysis in the upper gastrointestinal tract. Resistance of I to hydrolysis in the upper gastrointestinal tract was therefore assessed. Conventional, germ-free, and colitic rats were used to examine enzyme levels along the gastrointestinal tract to compare the stability of 2 model substrates (p-nitrophenyl .beta.-D-glucoside and .beta.-D-glucuronide) and to evaluate the prodrug I. Hydrolytic activity was examd. in the luminal contents, mucosa, and underlying muscle/connective tissues in all three types of rats. Enzymic activity (.beta.-D-glucosidase and .beta.-D-glucuronidase) was greatest in the lumen of cecum and colon of conventional rats. In contrast, germ-free rats exhibited relatively high levels of .beta.-D-glucosidase activity (about 80% of total activity in the conventional rats) in the proximal small intestine and the distal small intestine. Rats with induced colitis (acetic acid) showed reduced levels of luminal .beta.-D-glucuronidase activity in the large intestine; however, .beta.-D-glucosidase activity was relatively unchanged relative to that of the convention rat. Mucosal .beta.-D-glucuronidase activity was significantly lower in the colitic rats compared with that in the conventional animals. Despite reduced luminal levels of .beta.-D-glucuronidase activity in the colitic rats,

there was still a sharp gradient of activity between the small and the large intestines. Permeability of the glucoside and glucuronide prodrugs of dexamethasone through a monolayer of Caco-2 cells was relatively low compared to that of dexamethasone. I should be relatively stable and poorly adsorbed in the upper gastrointestinal tract. Once the compd. reaches the large intestine, it should be hydrolyzed to dexamethasone and glucuronic acid. Specificity of colon delivery in humans should be even greater due to lower levels of .beta.-D-glucuronidase activity in the small intestine compared with that in the lab. rat.

ST dexamethasone glucuronide colon delivery prepn

IT Hydrolysis
(of dexamethasone glucuronide, colon-specific drug delivery in relation to)

IT Intestine
(colon, dexamethasone glucuronide delivery to, as prodrug, evaluation of)

IT Intestine, metabolism
(large, dexamethasone glucuronide absorption by, drug delivery in relation to)

IT Intestine, metabolism
(mucosa, dexamethasone glucuronide absorption by, drug delivery in relation to)

IT Intestine, metabolism
(small, dexamethasone glucuronide absorption by, drug delivery in relation to)

IT 9001-22-3, .beta.-D-Glucosidase 9001-45-0, .beta.-D-Glucuronidase
RL: BIOL (Biological study)
(dexamethasone glucuronide hydrolysis by, colon-specific drug delivery in relation to)

IT 2492-87-7 10344-94-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, dexamethasone glucuronide colon-specific drug delivery in relation to)

IT **88158-43-4 105088-08-2**
RL: PRP (Properties)
(physicochem. properties and permeability of, dexamethasone glucuronide colon-specific drug delivery in relation to)

IT **6804-44-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and deprotection of)

IT **152154-28-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and in vitro evaluation of, for colon-specific drug delivery)

IT 50-02-2, Dexamethasone
RL: BIOL (Biological study)
(prodrugs for, glucuronide deriv. as, prepn. and in vitro evaluation of, for colon-specific drug delivery)

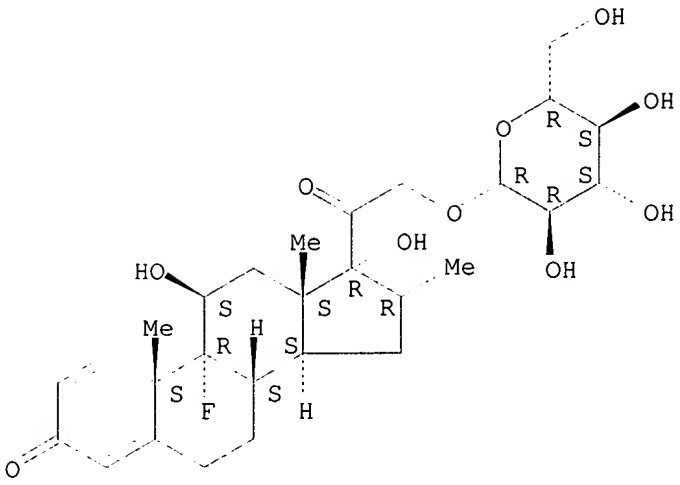
IT 21085-72-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dexamethasone)

IT **88158-43-4 105088-08-2**
RL: PRP (Properties)
(physicochem. properties and permeability of, dexamethasone glucuronide colon-specific drug delivery in relation to)

RN 88158-43-4 HCAPLUS

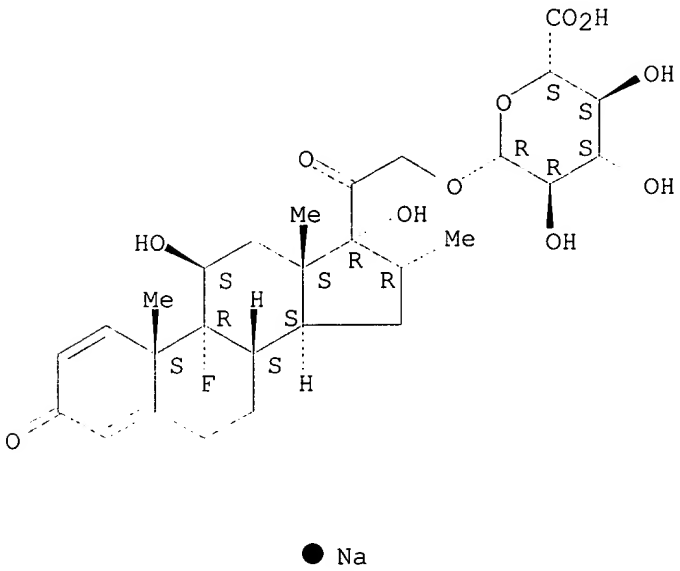
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 105088-08-2 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, monosodium salt (9CI) (CA INDEX NAME)

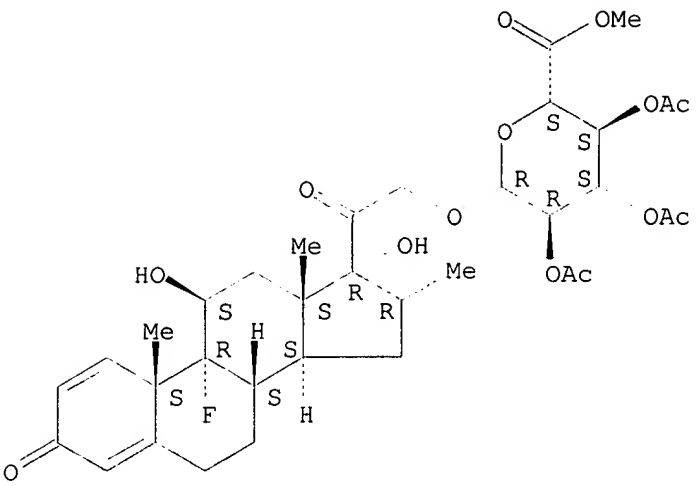
Absolute stereochemistry.



● Na

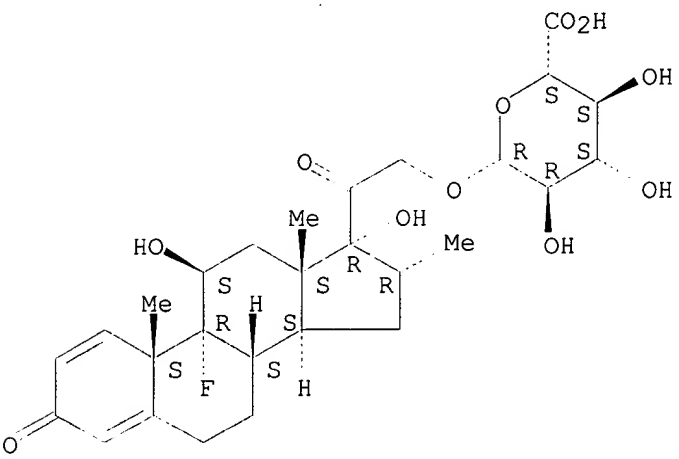
IT **6804-44-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and deprotection of)
RN 6804-44-0 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **152154-28-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and in vitro evaluation of, for colon-specific drug delivery)
RN 152154-28-4 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 11 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:240666 HCAPLUS
DN 118:240666
TI Relative **antiinflammatory** effect of oral dexamethasone-.beta.-D-glucoside and dexamethasone in experimental IBD
AU Friend, D.; Phillips, S.; McLeod, A.; Tozer, T. N.
CS Biopharm. Res. Group, SRI Int., Menlo Park, CA, 94025, USA
SO Proc. Program Int. Symp. Controlled Release Bioact. Mater., 18th (**1991**), 564-5. Editor(s): Kellaway, Ian W. Publisher: Controlled Release Soc., Deerfield, Ill.
CODEN: 58GMAH
DT Conference
LA English
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 1

AB Corticosteroids (e.g., dexamethasone) can be delivered to, and released in, the large intestine when given orally as glycoside prodrugs and should be effective in treatment of **inflammatory** bowel disease (IBD).

ST corticosteroid glycoside prodrug **inflammatory** bowel disease; dexamethasone glucoside prodrug **inflammatory** bowel disease

IT Glycosides
RL: BIOL (Biological study)
(corticosteroids, oral prodrugs for treatment of **inflammatory** bowel disease)

IT **Inflammation inhibitors**
(dexamethasone as)

IT Intestine, disease
(**inflammatory**, treatment of, dexamethasone glucoside oral drug for)

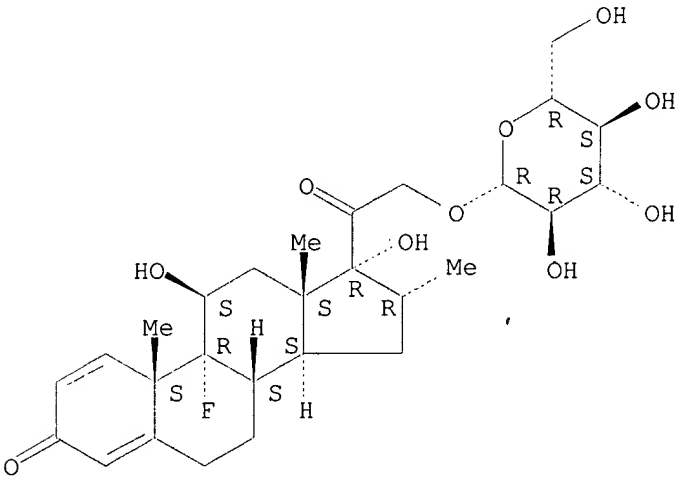
IT 50-02-2, Dexamethasone **88158-43-4**
RL: BIOL (Biological study)
(anti-**inflammatory** activity of oral, in **inflammatory** bowel disease)

IT **88158-43-4**
RL: BIOL (Biological study)
(anti-**inflammatory** activity of oral, in **inflammatory** bowel disease)

RN 88158-43-4 HCAPLUS

CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 12 OF 25 HCAPLUS COPYRIGHT 2002 ACS

AN 1991:442233 HCAPLUS

DN 115:42233

TI Relative anti-**inflammatory** effect of oral dexamethasone-.beta.-D-glucoside and dexamethasone in experimental **inflammatory** bowel disease in guinea pigs

AU Friend, D. R.; Phillips, S.; McLeod, A.; Tozer, T. N.

CS Biopharm. Res. Group, SRI Int., Menlo Park, CA, 94025, USA

SO Journal of Pharmacy and Pharmacology (**1991**), 43(5), 353-5
CODEN: JPPMAB; ISSN: 0022-3573

DT Journal

LA English

CC 2-4 (Mammalian Hormones)
Section cross-reference(s): 14, 63

AB The relative anti-**inflammatory** effect of dexamethasone and a prodrug, dexamethasone-.beta.-D-glucoside, was assessed in guinea-pigs with exptl.-induced **inflammatory** bowel disease (IBD). The glucoside prodrug is designed to reach the large intestine following oral administration. The active agent is liberated when the prodrug is hydrolyzed by glycosidases of colonic bacteria. Guinea-pigs were administered degraded carrageenan in their drinking water to produce exptl. IBD. Starting on day 15, dexamethasone (1.3 .mu.mol/kg) or dexamethasone-.beta.-D-glucoside (1.3 or 0.65 .mu.mol/kg) was administered by gastric intubation once daily for 5 days. Relative to control animals, the drug and prodrug treatments reduced the total no. of cecal ulcers. While there was no difference statistically between the drug and prodrug treatments, the data suggest that a lower dose of dexamethasone, administered as its glucoside prodrug, could reduce side-effects without reduced efficacy. Thus, localized delivery of dexamethasone to the large bowel can improve pharmacotherapy of IBD by reducing the side-effects assocd. with corticosteroids.

ST dexamethasone prodrug **inflammatory** bowel disease

IT Intestine, disease or disorder
(**inflammatory**, treatment of, with dexamethasone and dexamethasone prodrug)

IT **88158-43-4**
RL: BIOL (Biological study)
(**inflammatory** bowel disease treatment with)

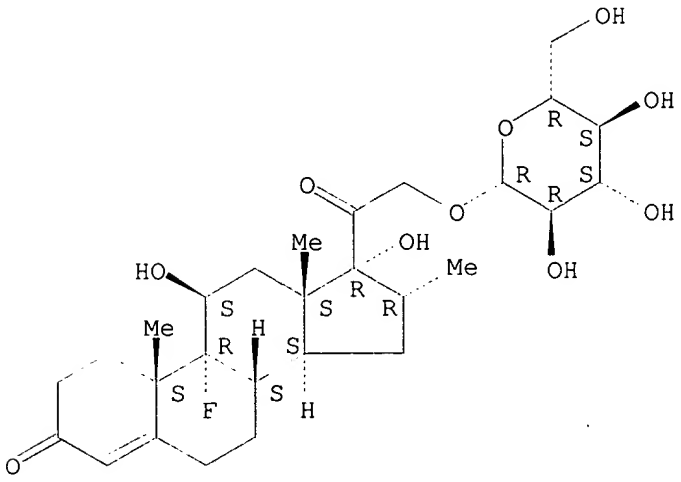
IT 50-02-2, Dexamethasone
RL: BIOL (Biological study)
(**inflammatory** bowel disease treatment with, prodrug in relation to)

IT **88158-43-4**
RL: BIOL (Biological study)
(**inflammatory** bowel disease treatment with)

RN 88158-43-4 HCAPLUS

CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 13 OF 25 HCAPLUS COPYRIGHT 2002 ACS

AN 1991:214302 HCAPLUS

DN 114:214302

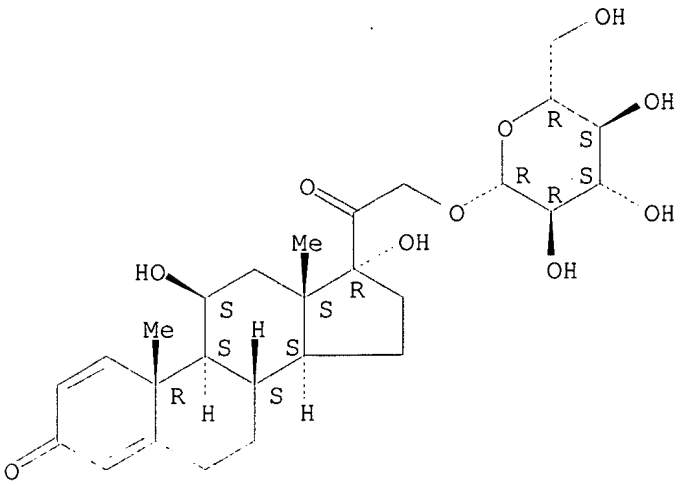
TI Colon-specific delivery of dexamethasone from a glucoside prodrug in the guinea pig

AU Tozer, Thomas N.; Rigod, Jean; McLeod, Andrew D.; Gungon, Ramon; Hoag, M.

Kim; Friend, David R.
CS Sch. Pharm., Univ. California, San Francisco, CA, 94143-0446, USA
SO Pharmaceutical Research (**1991**), 8(4), 445-54
CODEN: PHREEB; ISSN: 0724-8741
DT Journal
LA English
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 1
AB Dexamethasone-21.beta.-D-glucoside (I) is a potential prodrug for colonic delivery of the anti-**inflammatory** agent, dexamethasone. The ability of this prodrug to deliver dexamethasone selectively to the colon depends not only on its being slowly absorbed from the alimentary canal, but also on its having chem. and enzymic stability in the stomach and small intestine. Once reaching the large bowel, it should be quant. hydrolyzed to release the active agent. The potential of I for colon-specific delivery of dexamethasone is assessed by detg. the rates of its hydrolysis down the alimentary canal of the guinea pig, an animal in which an **inflammatory** bowel disease model has been developed. The hydrolytic activity is examd. in tissues and luminal contents of the stomach, proximal and distal segments of the small intestine, cecum, and colon. For the tissues, the greatest hydrolytic activity is in the proximal small intestine, while the stomach, cecum, and colon have only moderate activity. In contrast, the contents of the cecum and colon show greater activity than the contents of the small intestine and stomach. The luminal contents retained .beta.-glucosidase activity even after repeated centrifugation and resuspension in a buffer. The activity was unaffected by homogenization. These observations suggest that hydrolytic activity is assocd. with enzymes located on the surface of luminal cells. The movement and hydrolysis of I down the gastrointestinal tract of the guinea pig are also examd. About 20-30% of an oral dose appears to reach the cecum. Here the prodrug is rapidly hydrolyzed to the active drug. From i.v. administration of the prodrug and drug, it is apparent that I is poorly absorbed in the gastrointestinal tract (bioavailability, <1%). There is a ninefold selective advantage for delivery of dexamethasone in cecal tissues in the guinea pig under the conditions of this expt. Thus, there is a potential for a decrease in the usual dose and a concomitant redn. in the systemic exposure to dexamethasone. Because humans have much less glucosidase activity in the small intestine, even greater site-selective delivery to the cecum and colon is expected.
ST dexamethasone colon delivery glucoside prodrug
IT Drug bioavailability
(of dexamethasone, oral, from glucoside prodrug)
IT Intestine, metabolism
(cecum, dexamethasone glucoside hydrolysis in, in drug delivery)
IT Intestine, metabolism
(colon, dexamethasone glucoside hydrolysis in, in drug delivery)
IT Pharmaceutical dosage forms
(prodrugs, of dexamethasone, glucoside as, for drug colon delivery)
IT Intestine, metabolism
(small, dexamethasone glucoside hydrolysis in, in drug delivery)
IT **88158-44-5**
RL: BIOL (Biological study)
(colon delivery of, as prodrug)
IT 50-02-2, Dexamethasone
RL: BIOL (Biological study)
(colon delivery of, glucoside prodrug for)
IT 9001-22-3
RL: BIOL (Biological study)
(dexamethasone glucoside hydrolysis by, as prodrug, colon delivery in relation to)
IT **88158-44-5**
RL: BIOL (Biological study)
(colon delivery of, as prodrug)

RN 88158-44-5 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

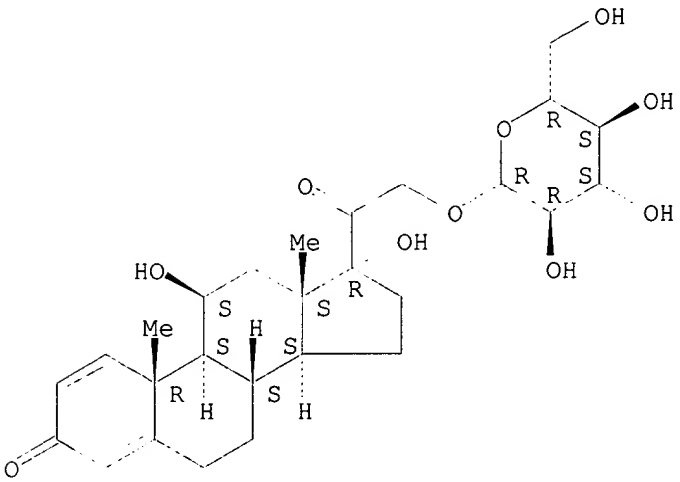
Absolute stereochemistry.



L103 ANSWER 14 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN **1991:192367** HCAPLUS
DN **114:192367**
TI Effect of antibiotic pretreatment on glycoside/glycosidase-based colonic drug delivery
AU Friend, David R.; Chow, Joseph J.; Chang, George W.
CS Controlled Release Biomed. Polym. Dep., SRI Int., Menlo Park, CA, 94025, USA
SO Drug Design and Delivery (1990), 6(4), 311-18
CODEN: DDDEEJ; ISSN: 0884-2884
DT Journal
LA English
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 1
AB The effect of antibiotic pretreatment on the intestinal distribution and hydrolysis of the prodrug prednisolone .beta.-D-glucoside was studied in rats. A combination of neomycin, lincomycin, and metronidazole was administered twice daily by gastric intubation for 3 days to young adult male rats. On the fourth day, prednisolone .beta.-D-glucoside was administered intragastrically. The distribution of prodrug and drug in the intestinal contents was significantly altered by the antibiotic treatment. In comparison with untreated rats, stomach to cecum transit time appeared to be reduced, and more prodrug was hydrolyzed in the small intestine. In addn., an appreciable amt. of the dose was retained longer in the small intestine of treated animals. The total recovery of prodrug and drug was unaltered by the pretreatment. Possible explanations for the obsd. results are presented.
ST colon drug delivery antibiotic; prednisolone glucoside prodrug colon delivery
IT Pharmaceutical dosage forms
(for delivery to colon, antibiotics effect on prednisolone glucoside prodrug absorption by intestine in relation to)
IT Intestine, metabolism
(prednisolone glucoside prodrug absorption by, antibiotics effect on, drug delivery to colon in relation to)
IT Antibiotics
(prednisolone glucoside prodrug distribution and hydrolysis in

intestine response to, colon delivery in relation to)
IT Intestine
(colon, drug delivery to, antibiotics effect on prednisolone glucoside prodrug absorption in relation to)
IT 154-21-2, Lincomycin 443-48-1, Metronidazole 1404-04-2, Neomycin
RL: BIOL (Biological study)
(prednisolone glucoside prodrug distribution and hydrolysis in intestine response to, colon delivery in relation to)
IT **88158-44-5**
RL: BIOL (Biological study)
(prodrug, for delivery to colon, antibiotics effect on)
IT **88158-44-5**
RL: BIOL (Biological study)
(prodrug, for delivery to colon, antibiotics effect on)
RN 88158-44-5 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 15 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:171170 HCAPLUS
DN 114:171170
TI Colon-specific drug delivery from a glucoside prodrug in the guinea pig. Efficacy study
AU Friend, David R.; Phillips, Sandra; Tozer, Thomas N.
CS Biopharm. Res. Group, SRI Int., Menlo Park, CA, 94025, USA
SO Journal of Controlled Release (**1991**), 15(1), 47-54
CODEN: JCREEC; ISSN: 0168-3659
DT Journal
LA English
CC 63-5 (Pharmaceuticals)
AB The effect of a prodrug-based colonic delivery system on carrageenan-induced **inflammatory** bowel disease (IBD) in guinea-pigs was investigated. Guinea-pigs were administered 4 wt.% of degraded carrageenan in the drinking water for 2 wk to induce exptl. IBD. The prodrug, dexamethasone-.beta.-D-glucoside, was then administered at one of two dose levels (1.3 or 0.65 .mu.mol/kg) once daily by gastric intubation for 5 days; dexamethasone (1.3 .mu.mol/kg) was also administered in the same manner. The higher dose of dexamethasone-.beta.-D-glucoside led to reduced gross pathol. effects (fluid cecal contents, redness, edema, ulcerations), and a significantly lower histopathol. score relative to dexamethasone, which was ineffective at controlling the

inflammatory response relative to control animals. The lower dose of prodrug was somewhat more effective than dexamethasone or no drug treatment in controlling gross pathol. effects of the large intestine, but was ineffective when evaluated histol. The implications of these findings are discussed.

ST dexamethasone glucoside prodrug colon delivery; **inflammatory** bowel disease dexamethasone prodrug

IT Intestine
(colon, dexamethasone glucoside prodrug for delivery to, in **inflammatory** bowel disease)

IT Intestine, disease or disorder
(**inflammatory**, dexamethasone glucoside prodrug for delivery to colon in)

IT Pharmaceutical dosage forms
(oral, dexamethasone glucoside prodrug for colon-specific delivery from, in **inflammatory** bowel disease)

IT 50-02-2, Dexamethasone
RL: BIOL (Biological study)
(glucoside prodrug for colon-specific delivery of, in **inflammatory** bowel disease)

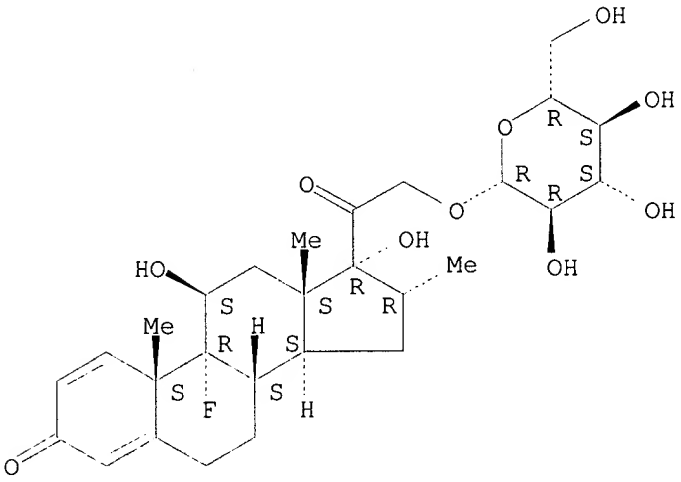
IT **88158-43-4**
RL: BIOL (Biological study)
(prodrug, for colon-specific delivery, in **inflammatory** bowel disease)

IT **88158-43-4**
RL: BIOL (Biological study)
(prodrug, for colon-specific delivery, in **inflammatory** bowel disease)

RN 88158-43-4 HCAPLUS

CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 16 OF 25 HCAPLUS COPYRIGHT 2002 ACS

AN **1985:100803** HCAPLUS

DN **102:100803**

TI Colon-specific steroidal glycoside prodrugs

IN Friend, David Robert; Chang, George Washington

PA University of California, Berkeley, USA

SO Eur. Pat. Appl., 70 pp.
CODEN: EPXXDW

DT Patent

LA English
IC A61K031-70; A61K031-705; C07J017-00
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 1, 2, 32, 33
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 123485	A1	19841031	EP 1984-302549	19840413
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	WO 8404041	A1	19841025	WO 1984-US554	19840410
	W: JP				
	JP 60501105	T2	19850718	JP 1984-502049	19840410
PRAI	US 1983-484983		19830414		
	US 1984-593492		19840329		
	WO 1984-US554		19840410		

AB A colon-specific producing delivery system is based on the use of a steroidal glycoside prodrug compn. which undergoes reaction in vivo with glycosidases produced by colon microflora to release a drug capable of being absorbed the intestinal mucosa. Dexamethasone [50-02-2], prednisolone [50-24-8], hydrocortisone [50-23-7], and fludrocortisone [127-31-1] are used as the steroidal substrates. Thus, dexamethasone 21-.beta.-D-glucoside (I) [**88158-43-4**] and prednisolone 21-.beta.-D-glucoside (II) [**88158-44-5**] were prepd. by the glycosylation of dexamethasone and prednisolone, resp., by using a modified Koenigs-Knoss reaction. 2,3,4,6-Tetra-O-acetyl-1-bromo-.alpha.-D-glucopyranose [572-09-8] was coupled with the appropriate steroid in CCl4 in the presence of Ag2CO3 and the acetyl glycosides formed were treated with 0.01N NaOH eliminating the acetyl groups to yield the resp. glucosides. The recovery of glucosides and free steroids from the small intestine and cecum at various times following the oral administration of I and II were detd. At 4 h, 59% of administered I was recovered unhydrolyzed. The delivery of II was less efficient than that of I. Only 14.8% of the administered dose of II could be recovered as such from the lower small intestine after 4 h.

ST glycoside steroid prodrug colon; prednisolone prodrug colon; dexamethasone prodrug colon; hydrolysis steroid glycoside prodrug

IT Hydrolysis
Kinetics of hydrolysis
(of steroidal glycoside prodrugs, colon delivery in relation to)

IT Intestine, metabolism
(colon, steroidal glycoside prodrugs delivery to)

IT Glycosides
RL: BIOL (Biological study)
(steroidal, prodrugs, for delivery to colon)

IT 5346-90-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(bromination of)

IT **88158-45-6P 88179-95-7P 92901-28-5P**
92901-29-6P 92901-30-9P 92901-31-0P
92901-32-1P 92901-33-2P 92937-53-6P
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and deacetylation of)

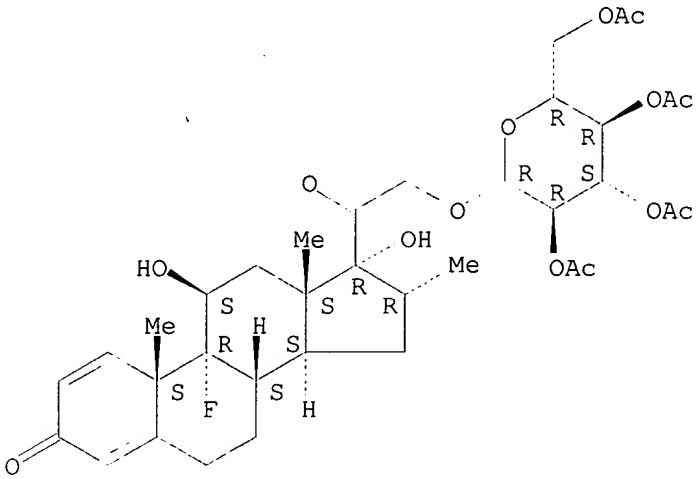
IT **88158-43-4P 88158-44-5P 92901-21-8P**
92901-22-9P 92901-23-0P 92901-24-1P
92901-25-2P 92901-26-3P 92901-27-4P
RL: PREP (Preparation)
(prepn. of, as prodrug for delivery to colon)

IT 2492-87-7 3482-57-3 7493-95-0
RL: BIOL (Biological study)
(prodrug model, hydrolysis of)

IT 50-02-2 50-23-7 50-24-8 127-31-1
RL: BIOL (Biological study)
(prodrugs for, glycosides as, delivery of, to colon)

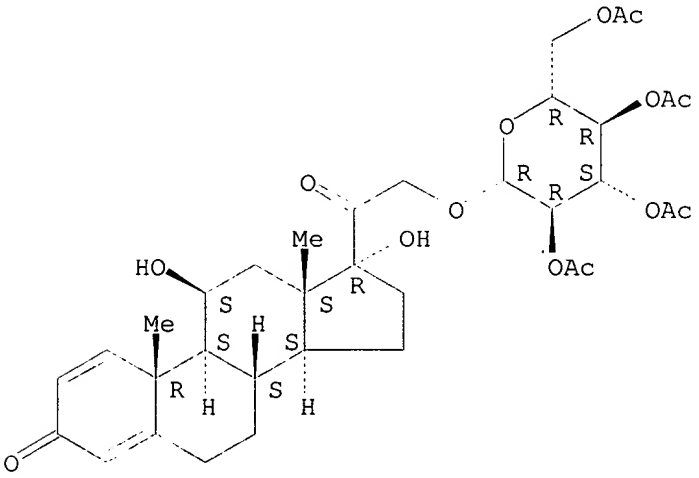
IT 572-09-8 3068-32-4 14227-66-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with steroids)
IT **88158-45-6P 88179-95-7P 92901-28-5P**
92901-29-6P 92901-30-9P 92901-31-0P
92901-32-1P 92901-33-2P 92937-53-6P
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and deacetylation of)
RN 88158-45-6 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

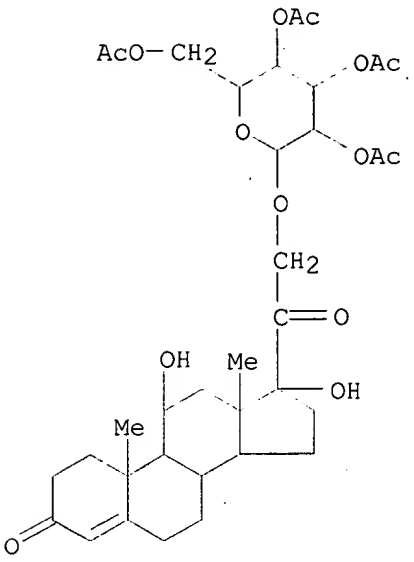


RN 88179-95-7 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)

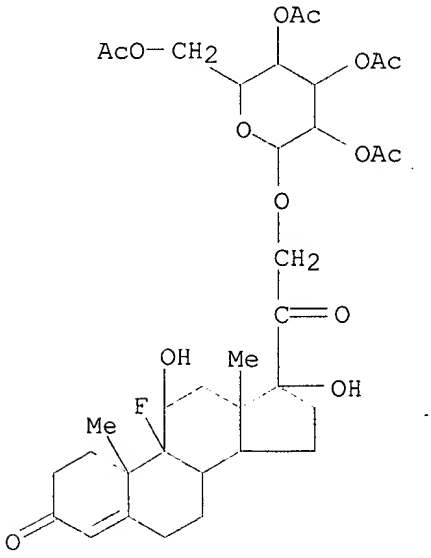
Absolute stereochemistry.



RN 92901-28-5 HCAPLUS
CN Pregn-4-ene-3,20-dione, 11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)

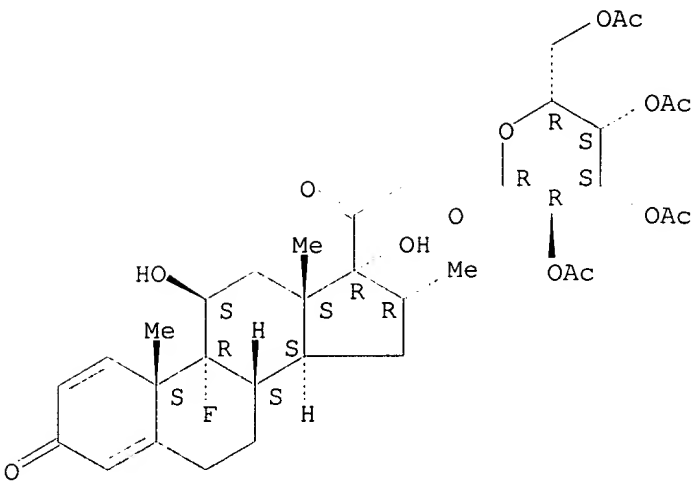


RN 92901-29-6 HCAPLUS
CN Pregn-4-ene-3,20-dione, 9-fluoro-11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)



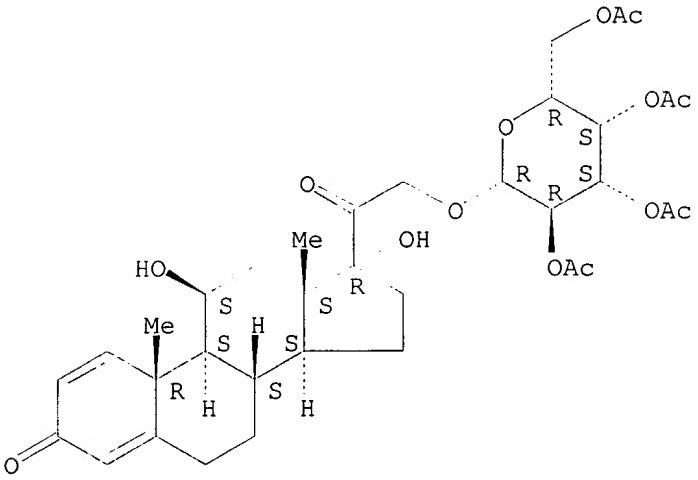
RN 92901-30-9 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

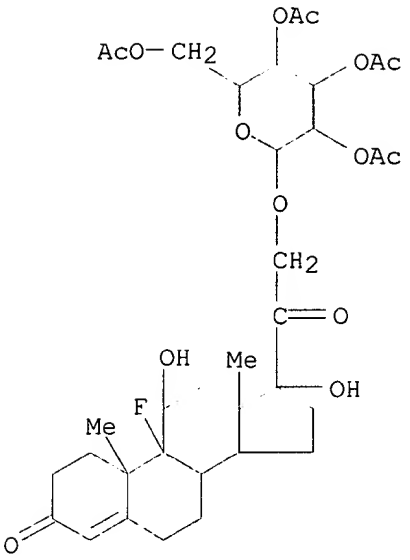


RN 92901-31-0 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

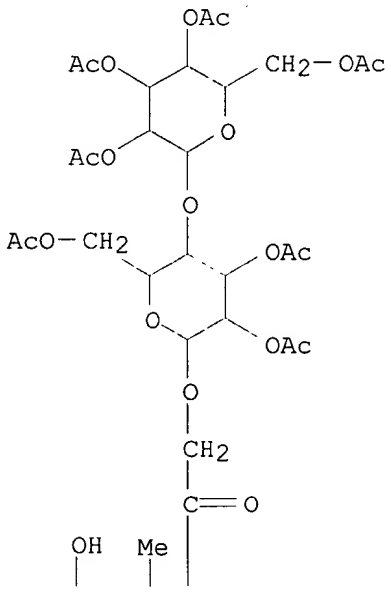


RN 92901-32-1 HCAPLUS
CN Pregn-4-ene-3,20-dione, 9-fluoro-11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)



RN 92901-33-2 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 11,17-dihydroxy-21-[[2,3,6-tri-O-acetyl-4-(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)-.beta.-D-glucopyranosyl]oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)

PAGE 1-A



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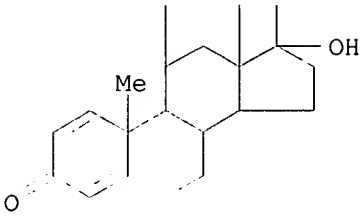
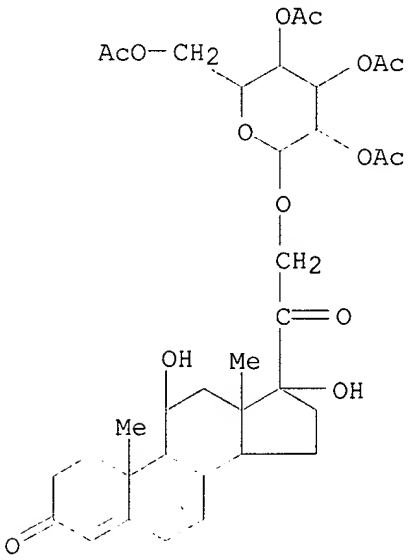
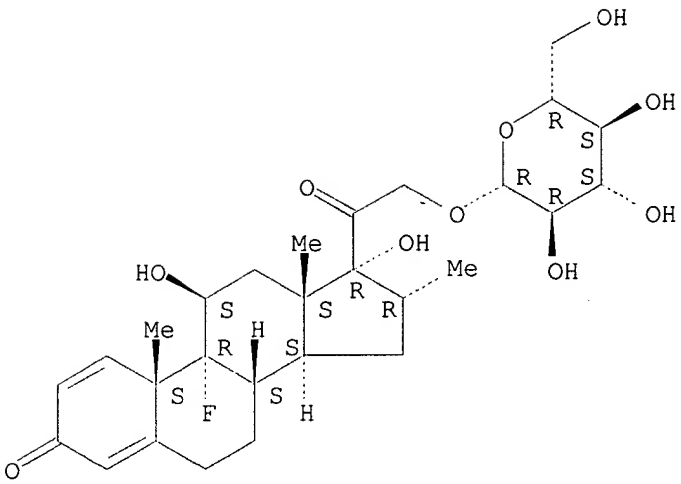


RN 92937-53-6 HCAPLUS
CN Pregn-4-ene-3,20-dione, 11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)



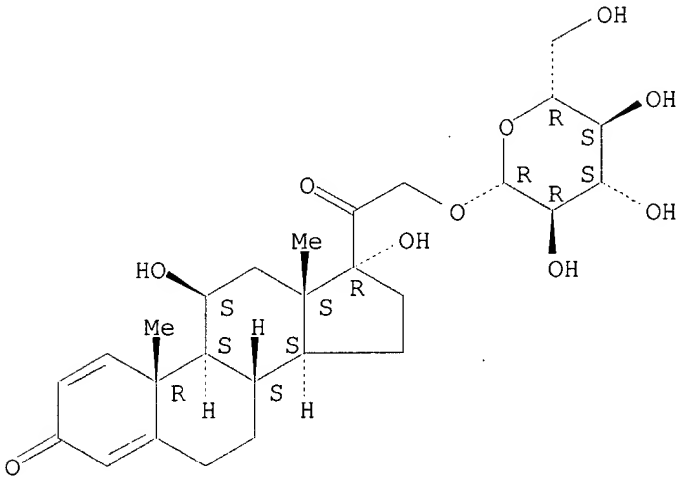
IT **88158-43-4P 88158-44-5P 92901-21-8P**
92901-22-9P 92901-23-0P 92901-24-1P
92901-25-2P 92901-26-3P 92901-27-4P
RL: PREP (Preparation)
(prepn. of, as prodrug for delivery to colon)
RN 88158-43-4 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

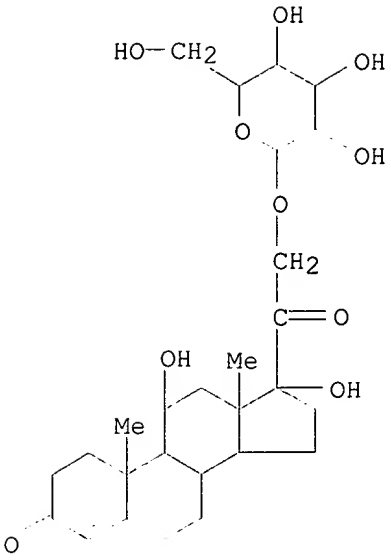


RN 88158-44-5 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

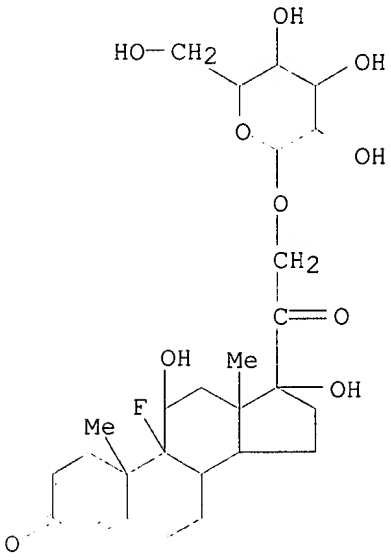
Absolute stereochemistry.



RN 92901-21-8 HCAPLUS
CN Pregn-4-ene-3,20-dione, 21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

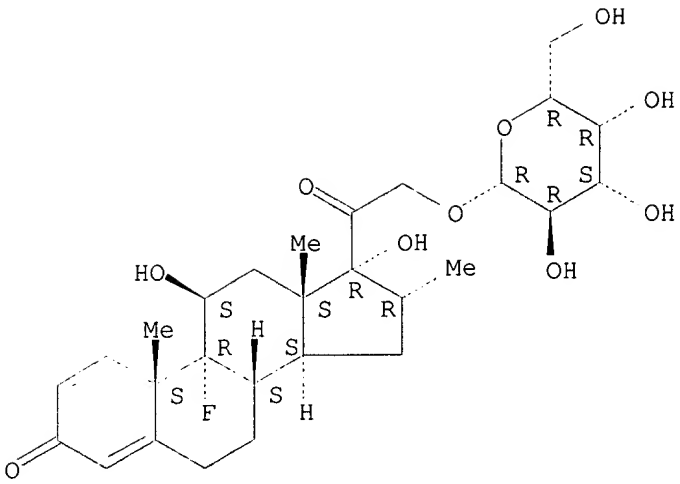


RN 92901-22-9 HCAPLUS
CN Pregn-4-ene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)



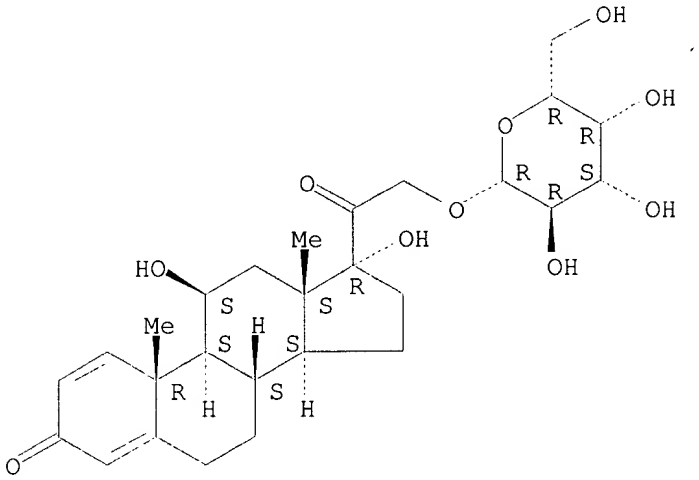
RN 92901-23-0 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-galactopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

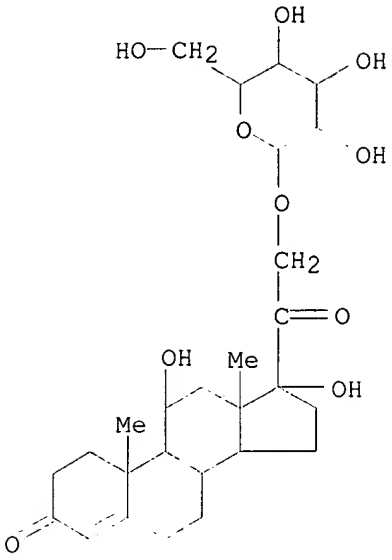


RN 92901-24-1 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-galactopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

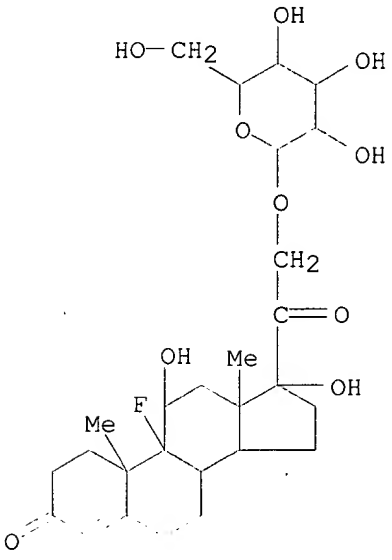
Absolute stereochemistry.



RN 92901-25-2 HCAPLUS
CN Pregn-4-ene-3,20-dione, 21-(.beta.-D-galactopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)



RN 92901-26-3 HCAPLUS
CN Pregn-4-ene-3,20-dione, 9-fluoro-21-(.beta.-D-galactopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)



RN 92901-27-4 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[(4-O-.beta.-D-glucopyranosyl-.beta.-D-glucopyranosyl)oxy]-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

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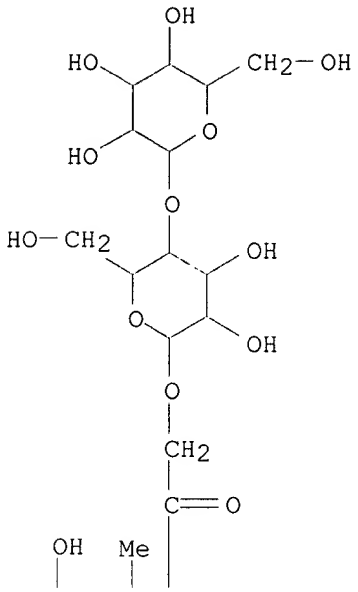

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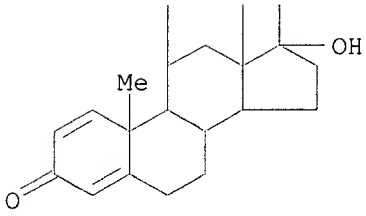


L103 ANSWER 17 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN **1985:32032** HCAPLUS
DN **102:32032**
TI Drug glycosides: potential prodrugs for colon-specific drug delivery
AU Friend, David R.; Chang, George W.
CS Dep. Nutr. Sci., Univ. California, Berkeley, CA, 94720, USA
SO Journal of Medicinal Chemistry (1985), 28(1), 51-7
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 1, 2, 32
AB The 21-yl .beta.-D-glucosides and galactosides of dexamethasone, prednisolone, hydrocortisone, and fludrocortisone and prednisolone-21-yl .beta.-D-cellobioside [**92901-27-4**] were prepd. by a modified Koenigs-Knorr reaction. The deacetylated glycoside prodrugs, along with the p-nitrophenyl derivs. of .beta.-D-glucoside, galactoside, and cellobioside, were subjected to hydrolysis by the contents of the rat stomach, proximal small intestine (PSI), distal small intestine (DSI), and cecum. All the prodrugs were hydrolyzed slowly by PSI and stomach

contents, more rapidly by contents of the DSI, and most rapidly by cecal contents. Hydrolysis rates catalyzed by DSI contents decreased in the following order: prednisolone-21-yl .beta.-D-galactoside [**92901-24-1**] > prednisolone-21-yl .beta.-D-glucoside [**88158-44-5**] > prednisolone-21-yl .beta.-D-cellobioside > dexamethasone-21-yl .beta.-D-galactoside [**92901-23-0**] > dexamethasone-21-yl .beta.-D-glucoside [**88158-43-4**]. Hydrolysis of the prednisolone cellobioside was only 1/2 that of glucoside and 1/4 that of the galactoside. Hydrolysis of all the prodrugs in cecal contents was rapid, with the exceptions of hydrocortisone-21-yl .beta.-D-glucoside [**92901-21-8**] and fludrocortisone-21-yl .beta.-D-glucoside [**92901-22-9**], which were hydrolyzed more slowly than the other glucoside prodrugs. Eadie-Hofstee plots for hydrolysis of the glucoside compds. suggested that bacterial .beta.-D-glucosidase [9001-22-3] activity in the colon may be more heterogeneous in nature than .beta.-D-galactosidase [9031-11-2] activity. The logarithm of the partition coeff. (octanol-buffer) of the cellobioside (-0.56) was considerably lower than that of the other prodrugs, which ranged from 0.11 to 0.84; comparative detns. for the free steroids ranged from 1.54 to 1.73. These relative rates of hydrolysis and relative lipophilicities, along with previously reported animal expts., enable one to est. the site specificity of glycoside prodrugs prior to extensive animal studies.

ST steroid glycoside prodrug prepn; drug glycoside colon specific delivery

IT Lipophilicity
(of steroid glycoside prodrugs)

IT Kinetics of hydrolysis
(of steroid glycoside prodrugs by gastrointestinal contents)

IT Intestinal content
Stomach content
(steroid glycoside prodrugs hydrolysis by)

IT Intestine, metabolism
(colon, prodrugs specific for)

IT Pharmaceuticals
(prodrugs, glycosides as)

IT Glycosides
RL: SPN (Synthetic preparation); PREP (Preparation)
(steroidal, prepn. of, as colon-specific prodrugs, hydrolysis by gastrointestinal contents and lipophilicity in relation to)

IT 50-02-2 50-23-7 50-24-8 127-31-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(Koenigs-Knorr reaction of, with acetylbromosugars)

IT 572-09-8 3068-32-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(Koenigs-Knorr reaction of, with steroids)

IT **88158-43-4 88158-44-5**
RL: BIOL (Biological study)
(colon-specific prodrug, hydrolysis by gastrointestinal contents and lipophilicity in relation to)

IT 9001-22-3 9031-11-2
RL: BIOL (Biological study)
(of intestine, steroid glycoside prodrugs hydrolysis by bacterial)

IT 14227-66-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and Koenigs-Knorr reaction of, with prednisolone)

IT **92901-28-5P 92901-29-6P 92901-30-9P**
92901-31-0P 92901-32-1P 92901-33-2P
92937-53-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)

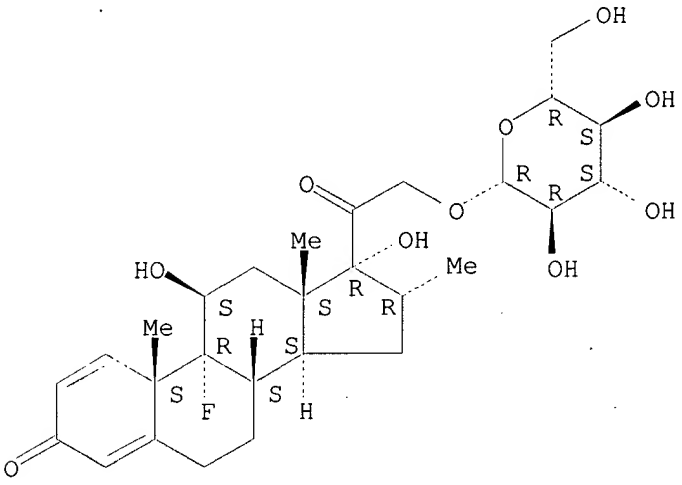
IT **92901-21-8P 92901-22-9P 92901-23-0P**

92901-24-1P 92901-25-2P 92901-26-3P
92901-27-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as colon-specific prodrug, hydrolysis by gastrointestinal contents and lipophilicity in relation to)

IT **88158-43-4 88158-44-5**
RL: BIOL (Biological study)
(colon-specific prodrug, hydrolysis by gastrointestinal contents and lipophilicity in relation to)

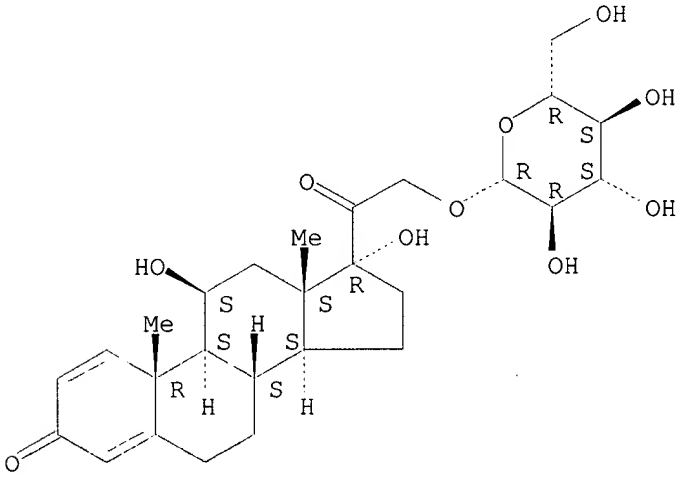
RN 88158-43-4 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 88158-44-5 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

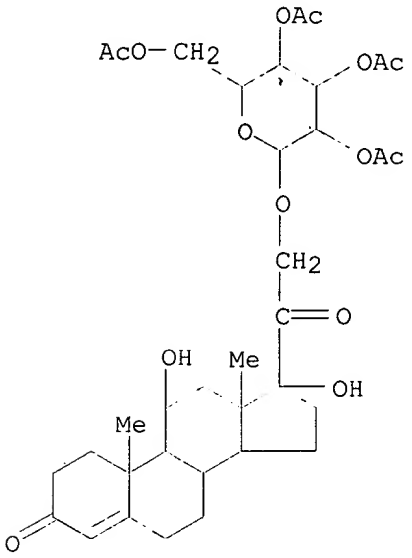
Absolute stereochemistry.



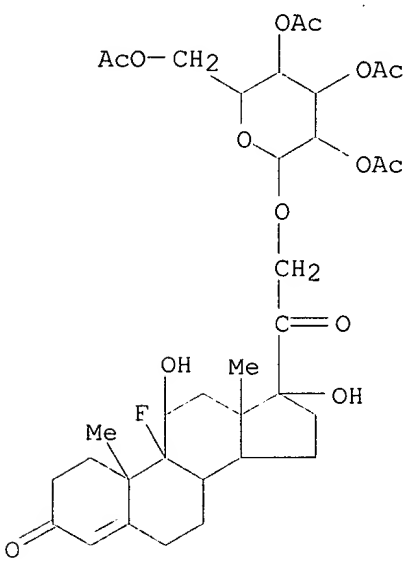
IT **92901-28-5P 92901-29-6P 92901-30-9P**
92901-31-0P 92901-32-1P 92901-33-2P
92937-53-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(prepn. and hydrolysis of)

RN 92901-28-5 HCAPLUS
CN Pregn-4-ene-3,20-dione, 11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)

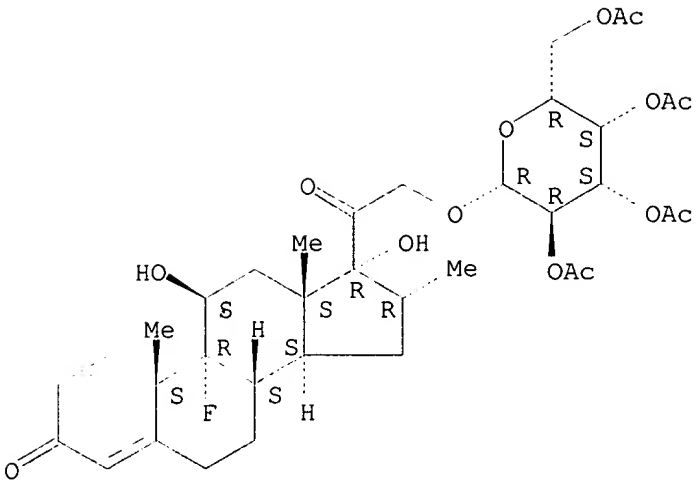


RN 92901-29-6 HCAPLUS
CN Pregn-4-ene-3,20-dione, 9-fluoro-11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)



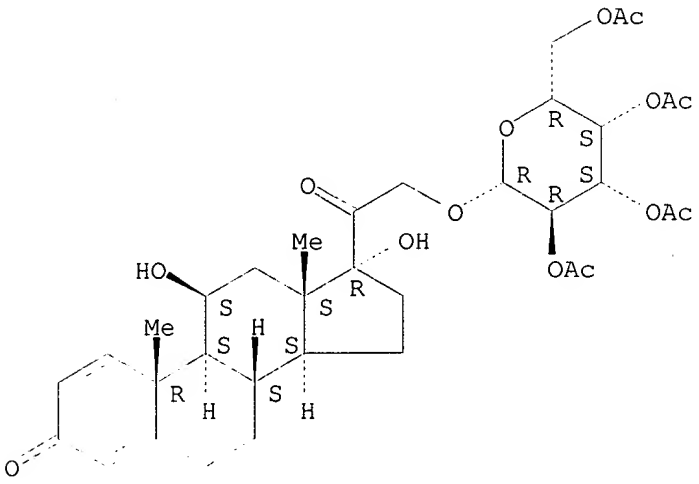
RN 92901-30-9 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

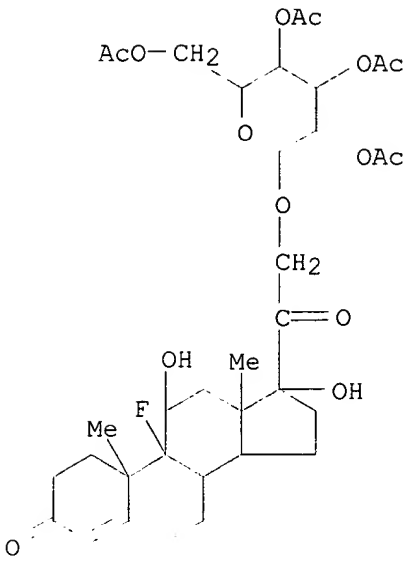


RN 92901-31-0 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 92901-32-1 HCAPLUS
CN Pregn-4-ene-3,20-dione, 9-fluoro-11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)



RN 92901-33-2 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 11,17-dihydroxy-21-[[2,3,6-tri-O-acetyl-4-(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)-.beta.-D-glucopyranosyl]oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)

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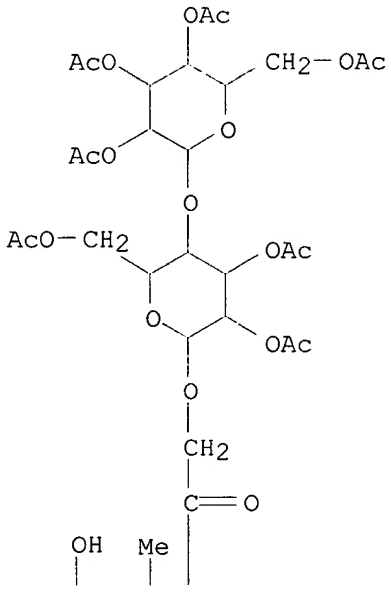

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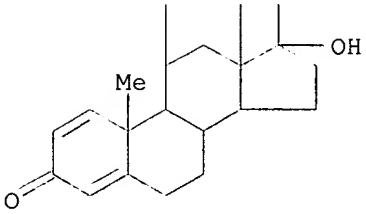
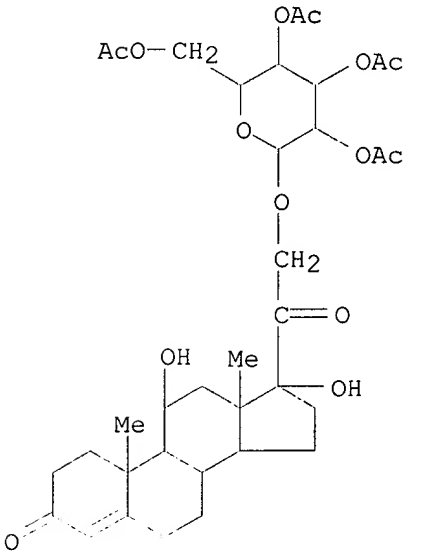
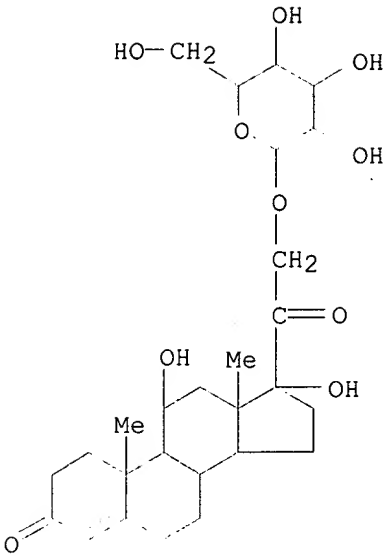


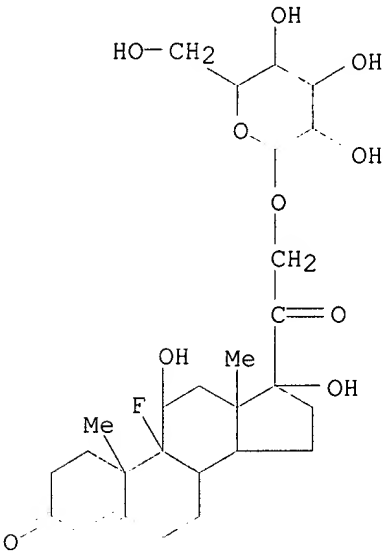
RN 92937-53-6 HCAPLUS
CN Pregn-4-ene-3,20-dione, 11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)



IT **92901-21-8P 92901-22-9P 92901-23-0P**
92901-24-1P 92901-25-2P 92901-26-3P
92901-27-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as colon-specific prodrug, hydrolysis by gastrointestinal contents and lipophilicity in relation to)
RN 92901-21-8 HCAPLUS
CN Pregn-4-ene-3,20-dione, 21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

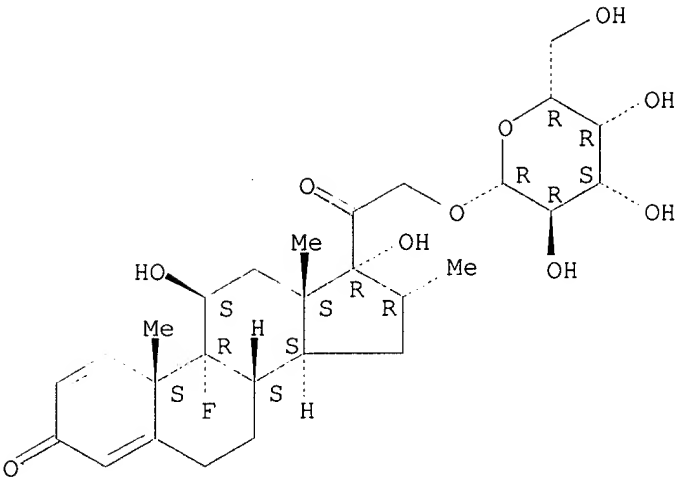


RN 92901-22-9 HCAPLUS
CN Pregn-4-ene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)



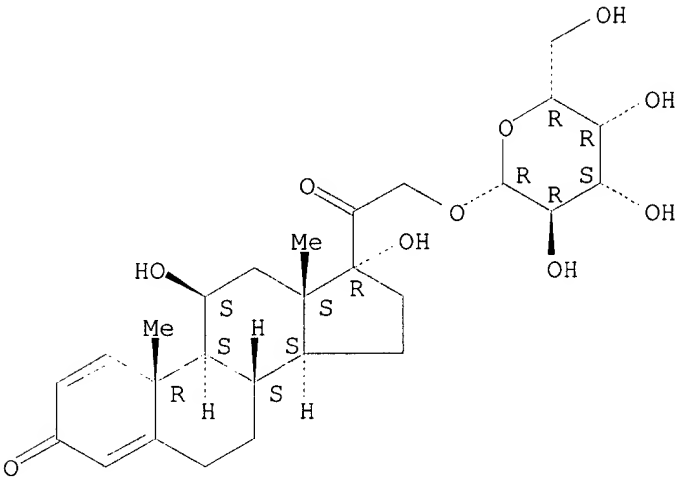
RN 92901-23-0 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-galactopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

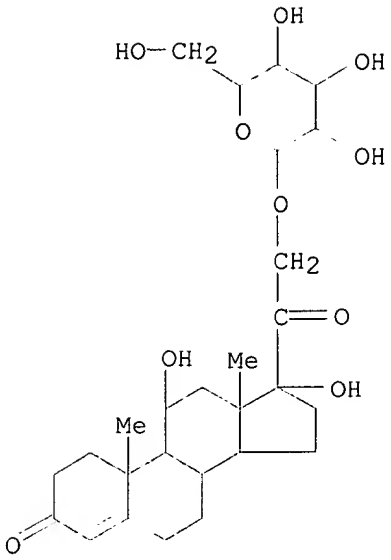


RN 92901-24-1 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-galactopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

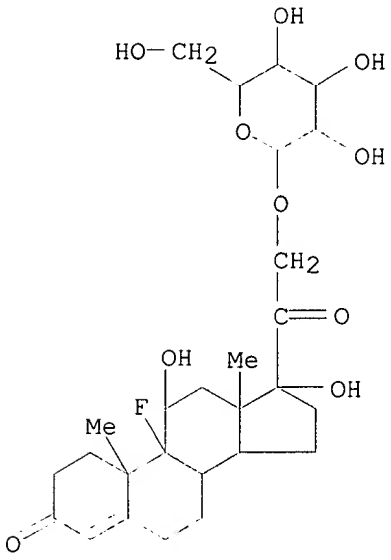
Absolute stereochemistry.



RN 92901-25-2 HCAPLUS
CN Pregn-4-ene-3,20-dione, 21-(.beta.-D-galactopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)



RN 92901-26-3 HCAPLUS
CN Pregn-4-ene-3,20-dione, 9-fluoro-21-(.beta.-D-galactopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)



RN 92901-27-4 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[(4-O-.beta.-D-glucopyranosyl-.beta.-D-glucopyranosyl)oxy]-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

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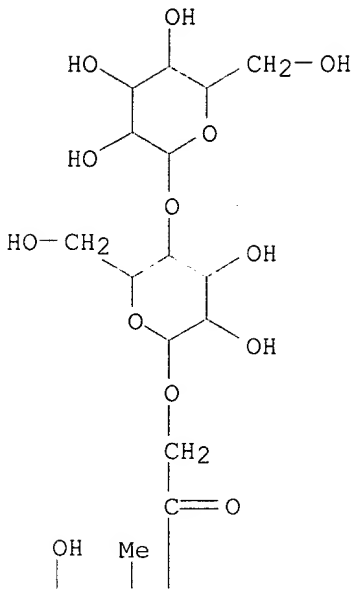

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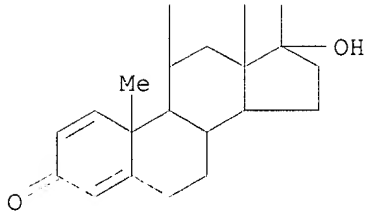


L103 ANSWER 18 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1984:73892 HCAPLUS
DN 100:73892
TI A colon-specific drug-delivery system based on drug glycosides and the glycosidases of colonic bacteria
AU Friend, David R.; Chang, George W.
CS Dep. Nutr. Sci., Univ. California, Berkeley, CA, 94720, USA
SO Journal of Medicinal Chemistry (**1984**), 27(3), 261-6
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 2, 33
GI For diagram(s), see printed CA Issue.
AB The prodrugs 9.alpha.-fluoro-11.beta.,17.alpha.-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl .beta.-D-glucopyranoside (I) [**88158-43-4**] and 11.beta.,17.alpha.-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl .beta.-D-glucopyranoside (II) [**88158-44-5**] which may be useful in treating **inflammatory** bowel disease were prepd. by coupling the appropriate steroid with 2,3,4,7-tetra-O-acetyl-1-bromo-

.alpha.-D-glucopyranose [572-09-8] followed by removal of the Ac protecting groups on the sugar residues from the steroid glucosides with 0.01N NaOH. I and II administered to rats intragastrically reached the rat lower intestine in 4-5 h, where they were rapidly hydrolyzed by the glycosidases of colon bacteria, releasing the free steroids. Nearly 60% of an oral dose of I reached the cecum, whereas <15% of II reached the cecum. The free steroids administered orally, were absorbed exclusively from the small intestine, <1% of either reached the cecum.

ST steroid glucoside prepn prodrug; colon drug delivery system

IT Intestine, metabolism
(colon, dexamethasone and prednisolone glucosides absorption by, delivery system in relation to)

IT Microorganism
(intestinal, steroid glucosides hydrolysis by, drug delivery system in relation to)

IT 50-02-2 50-24-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, with bromotetraacetylglucopyranose, in prodrug prepn.)

IT 572-09-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(coupling of, with dexamethasone or prednisolone, in prodrugs prepn.)

IT **88158-45-6P 88179-95-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)

IT **88158-43-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as dexamethasone prodrug, in colon-specific delivery system)

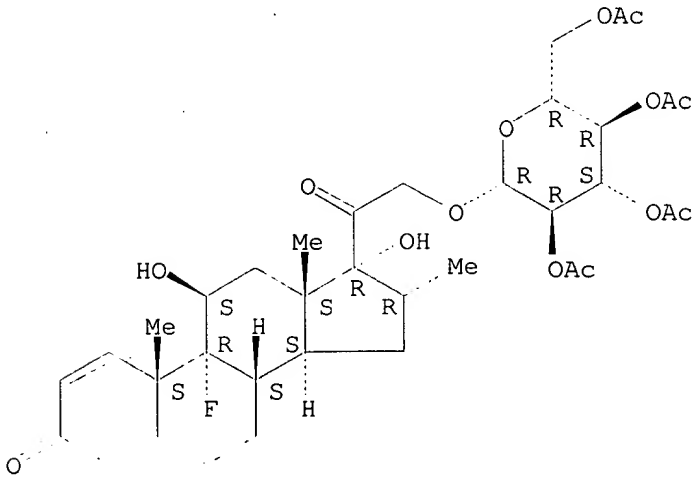
IT **88158-44-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as prednisolone prodrug, in colon-specific delivery system)

IT **88158-45-6P 88179-95-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)

RN 88158-45-6 HCAPLUS

CN Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

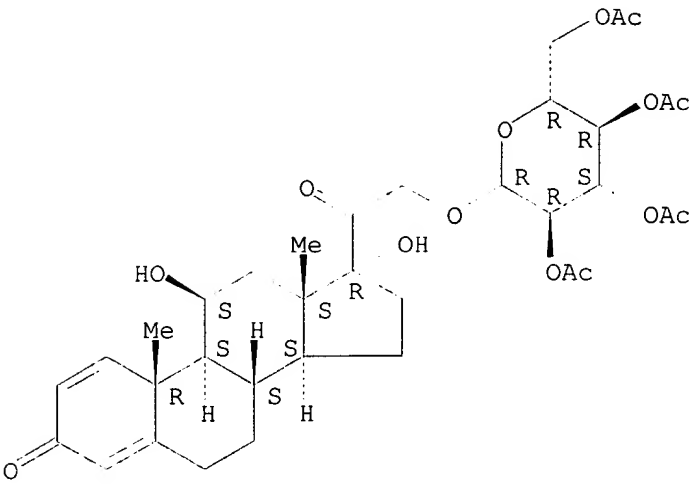
Absolute stereochemistry.



RN 88179-95-7 HCAPLUS

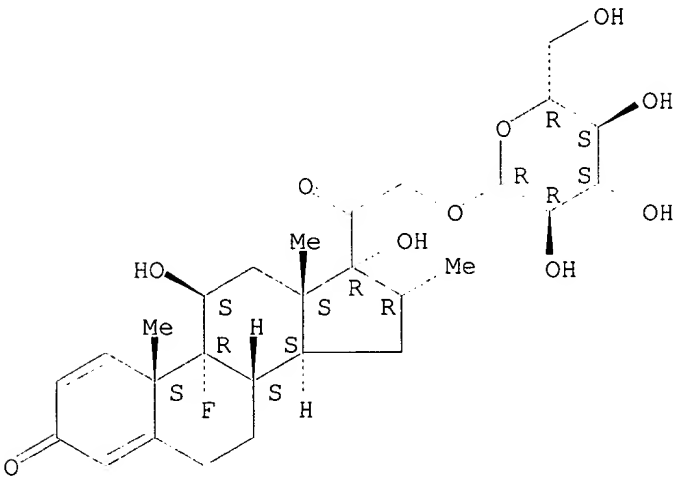
CN Pregna-1,4-diene-3,20-dione, 11,17-dihydroxy-21-[(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)oxy]-, (11.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



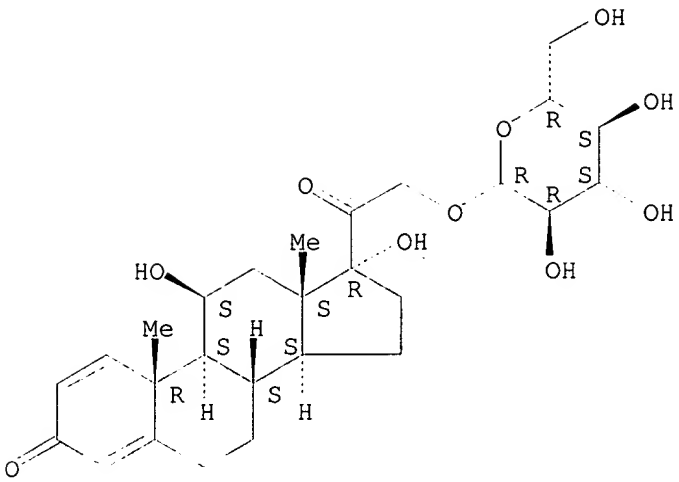
IT **88158-43-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as dexamethasone prodrug, in colon-specific delivery system)
RN 88158-43-4 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-16-methyl-, (11.beta.,16.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **88158-44-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as prednisolone prodrug, in colon-specific delivery system)
RN 88158-44-5 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-glucopyranosyloxy)-11,17-dihydroxy-, (11.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L103 ANSWER 19 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1970:21929 HCAPLUS
DN 72:21929
TI Steroidal 2'-acetamido-2'-deoxy-glucosidal **antiinflammatory** compounds
IN Sarett, Lewis H.; Strachan, Robert G.; Hirschmann, Ralph F.
PA Merck and Co., Inc.
SO U.S., 26 pp. Continuation-in-part of U.S. 3325474
CODEN: USXXAM
DT Patent
LA English
IC A61K; C07C
NCL 260210000
CC 33 (Carbohydrates)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3427300	A	19690211	US 1965-507522	19651112 <--

AB A mixt. of 4.5 g. 11,17,21-trihydroxy-1,4-pregnadiene-3,20-dione in 25 ml dry HCONMe2 contg. 17.6 g Hg(CN)2 was dild. with 25 ml xylene, 13.0 g 2-acetamido-3,4,6-tri-O-acetyl-2-deoxy-.alpha.-O-glucopyranosyl chloride in 100 ml of 1:1 HCONMe2-xylene was added dropwise over 3 hrs under n at 130-5.degree., the mixt. was kept at 130-5.degree. for 1.75 hrs, cooled, dild. with 500 ml CHCl3, and worked up to yield 11,17-dihydroxy-3,20-dioxo-1,4-pregnadien-21-yl 2-acetamido-2-deoxy-.beta.-D-glucoside (I). A soln. of 27 millimoles I in 140 ml pyridine was cooled in an ice bath, 160 millimoles acetylsalicyloyl Cl was added in portions with stirring, t he mixt. was stirred at room temp. 10 hrs and worked up to yield 11,17-dihydroxy-3,20-dioxo-1,4-pregnadien-21-yl 2-acetamido-3,4,6-tri-O-(o-acetoxybenzoyl)-2-deoxy-.beta.-D-glucoside. Also prepd. were 9.alpha.-fluoro-11.beta.,17.alpha.,21-trihydroxy-3,20-dioxo-1,4-pregnadien-16.alpha.-yl 2-acetamido-2-deoxy-.beta.-D-glucoside; 11,17-dihydroxy-3,20-dioxo-1,4-pregnadien-21-yl 2-deoxy-2-trifluoroacetamido-.beta.-D-glucoside; 11,17-dihydroxy-3,20-dioxo-1,4-pregnadien-21-yl 2-amino-2-deoxy-.beta.-D-glucoside; 11.beta.-hydroxy-2-hydroxymethylene-17.alpha.,20,20,21-bismethylenedioxy-6,16.alpha.-dimethyl-4,6-pregnadien-3-one, m. 200-4.degree.; 17.alpha.,20,20,21-bis(methylenedioxy)-6,16.alpha.-dimethyl-2'-phenyl-[3,2-c]pyrazole-4,6-pregnadien-11.beta.-ol, m. 258-62.degree.; 11.beta.,17.alpha.,-21-trihydroxy-6,16.alpha.-dimethyl-2'-phenyl[3,2-c]pyrazolo-4,6-pregnadien-20-one and the 21-acetate m. 225-6.degree.. The resp. galactosides were also prepd.

ST steroidal glucosidyl **antiinflammatorys**; glucosidyl steroidal

antiinflammatorys; antiinflammatorys steroidal glucosidyl

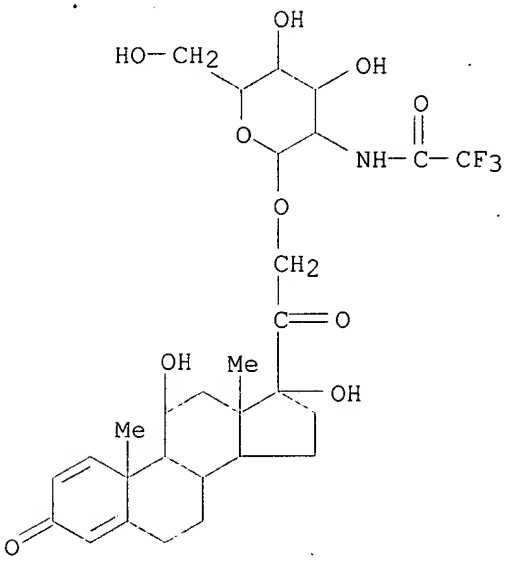
IT Steroids, preparation
RL: PREP (Preparation)
(2-acetamido-2-deoxyglycosides, **inflammation**-inhibiting substances)

IT Glycosides
RL: RCT (Reactant)
(steroidal 2-acetamido-2-deoxy-, **inflammation**-inhibiting substances)

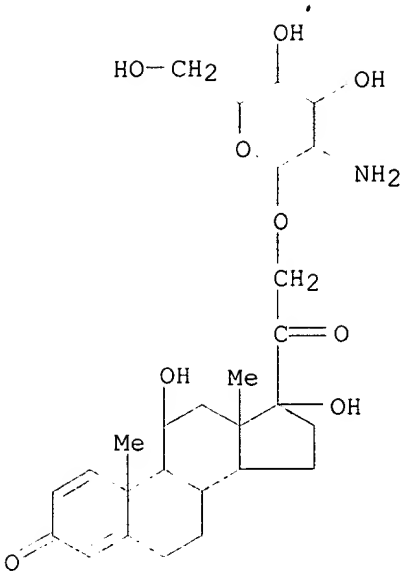
IT 6736-63-6P 6736-65-8P 6736-66-9P 6736-67-0P 15466-03-2P
26783-53-9P 26783-54-0P 26783-55-1P 26783-58-4P
26783-59-5P 26783-60-8P 26783-61-9P 26783-62-0P 26783-63-1P
26783-64-2P 26783-65-3P 26783-66-4P 26783-67-5P 26783-68-6P
26884-47-9P 26884-48-0P 26884-49-1P 26940-50-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT **26783-53-9P 26783-54-0P 26884-47-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

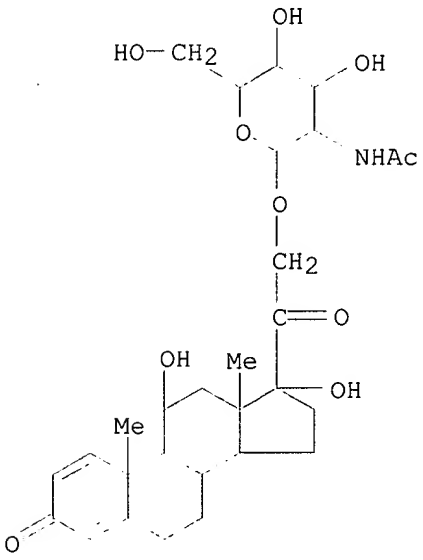
RN 26783-53-9 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[[2-deoxy-2-(2,2,2-trifluoroacetamido)-.beta.-D-glucopyranosyl]oxy]-11,17-dihydroxy- (8CI) (CA INDEX NAME)



RN 26783-54-0 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[(2-amino-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11,17-dihydroxy- (8CI) (CA INDEX NAME)



RN 26884-47-9 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11,17-dihydroxy- (8CI) (CA INDEX NAME)



L103 ANSWER 20 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1967:95370 HCAPLUS
DN 66:95370
TI 2-N-Acylamido-2-deoxyglucosides of steroids
IN Sarett, Lewis H.; Strachan, Robert G.; Hirschmann, Ralph F.
PA Merck and Co., Inc.
SO Fr., 5 pp.
CODEN: FRXXAK
DT Patent
LA French
IC A61K; C07C
CC 33 (Carbohydrates)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 3627		19651122		<--
PRAI	US		19630218 <--		

AB 2-Acetamido-2-deoxy-D-glucose (I) was prepd. from 2-amino-2-deoxy-D-glucose-HCl (yield 70%, m. 202-4.degree.) and converted to 2-acetamido tri-O-acetyl-2-deoxy-D-glucopyranosyl chloride (II) (26.8 g. from 25 g. I). To a soln. of 4.5 g. pregna-1,4-diene-11.beta.,17.alpha.,21-triol-3,20-dione in 25 ml. HCONMe2 contg. 17.6 g. Hg(CN)2 and 25 ml. abs. xylene was added dropwise during 3 hrs. (with stirring and under N) a soln. of 13 g. II in 100 ml. 1:1 HCONMe2-xylene at 130-5.degree. (oil bath), the mixt. held 1.75 hrs. at this temp., cooled, dild. with 500 ml. CHCl3, and washed with H2O (total 500 ml.), the aq. phase reextd. with CHCl3, the org. phase dried and evapd., the residue dissolved in (ClCH2)2, the solvent evapd., and the remainder dried in vacuo, taken up in CHCl3, and chromatographed on acid-washed Al2O3. Elution with CHCl3-MeOH (up to 95% MeOH) gave pregna-1,4-diene-11.beta.,17.alpha.-diol-3,20-dione-21-yl tri-O-acetyl-D-2-acetamido-2-deoxy-.beta. - D - glucopyranoside (III). A soln. of 1.055 g. III in 120 ml. MeOH treated under N with the calcd. amt. of MeONa (10 min. at room temp.), neutralized with AcOH, filtered, dild. with 6.5 ml. H2O, and centrifuged, and the supernatant cooled gave pregna-1,4-diene-11.beta.,17.alpha.-diol-3,20-dione-21-yl D-2-acetamido-2-deoxy-.beta.-D-glucopyranoside. Similarly, 9.alpha.-fluoropregna-1,4-diene-11.beta.,16.alpha.,17.alpha.,21-tetrol-3,20-dione 21-monoacetate was converted to 9.alpha.-fluoropregna-1,4-diene-11.beta.,17.alpha.,21-triol-3,20-dione-16.alpha.-yl D-2-acetamido-2-deoxy-.beta.-D-glucopyranoside. The new compds. are **antiinflammatory** agents, but have no side effects.

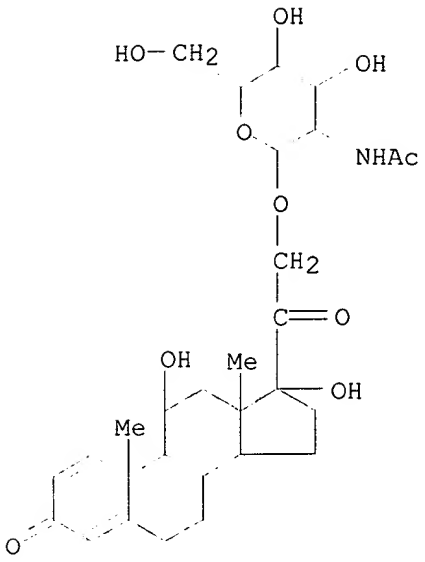
IT Steroids, preparation
RL: PREP (Preparation)
(2-acetamido-2-deoxy-.beta.-D-glucopyranosides)

IT **3024-64-4P** 15466-03-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT **3024-64-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 3024-64-4 HCAPLUS

CN Pregna-1,4-diene-3,20-dione, 21-[(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11.beta.,17-dihydroxy- (7CI, 8CI) (CA INDEX NAME)



L103 ANSWER 21 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1965:480944 HCAPLUS
DN 63:80944
OREF 63:14968e-h,14969a
TI Steroid D-galactouronides
IN Sarett, Lewis H.; Strachan, Robert G.; Hirschmann, Ralph F.
PA Merck & Co., Inc.
SO 91 pp.
DT Patent
LA Unavailable
CC 43 (Carbohydrates)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	BE 643983		19640818	BE		<--
	GB 1047542			GB		
	US 3206359		1965	US		<--
	US 3240777		1966	US		<--
PRAI	US		19630218	<--		

GI For diagram(s), see printed CA Issue.
AB Compds. of the general formula I, where Z is a steroid residue R is an alkyl group, Ba, or Na, and Y is H or an acyl group, are prepd. and can be used as **antiinflammatory** agents. Thus, a mixt. of .apprx.0.015 mole prednisolone and 0.03 mole Ag2CO3 in 350 ml. C6H6 is treated with 0.02 mole methyl (tri-O-acetyl-.alpha.-D-galactopyranosyl bromide)uronate to give methyl (11.beta.,17.alpha.-dihydroxy-1,4-pregnadiene-3,20-dione-21-yl tri-O-acetyl-.beta.-D-galactopyranoside)uronate (II), .lambda.max 243 m.mu. (**E** 197). Similarly prepd. is methyl (16.alpha.-methyl-11.beta.,17.alpha.-dihydroxy-4-pregnene-3-,20-dione-21-yl tri-O-acetyl-.beta.-D-galactopyranoside)uronate, .lambda.max. 240 m.mu. (**E** .apprx.200). A soln. of 0.005 mole II in 70 ml. MeOH is treated with 20 ml. N NaOMe(MeOH), the mixt. is agitated 30 min. under N, and 250 ml. 0.1N Ba(OH)2 is added to give 11.beta.,17.alpha.,21-trihydroxy-1,4-pregnadiene-3,20-dione barium 21-D-galactouronide (III). A soln. of 0.001 mole III in H2O is treated with 30 g. Amberlite IRC-50 (Na form) to give 11.beta.,17.alpha.,21-trihydroxy-1,4-pregnadiene-3,20-dione sodium 21-D-galactouronide, .lambda.max. 246 m.mu. (**E** .apprx.167). Also prepd. are 3.alpha.-acetoxy-16.alpha.-methylpregnane-11,20-dione, 3.alpha.,20-diacetoxy-16.alpha.-methyl-17(20)-pregnen-11-one,

17.alpha.,20-epoxy-3.alpha.,20- epoxy-3.alpha.,20-diacetoxy-16.alpha.-methyl-pregnan-11-one, 3.alpha.,17.alpha.-dihydroxy-16.alpha.-methyl-pregnane-11,20-dione, 21-bromo-3.alpha.,17.alpha.-dihydroxy-16.alpha.-methyl-pregnane-11,20-dione, 3.alpha.,17.alpha.,21-trihydroxy-16.alpha.-methyl-pregnane-11,20-dione, 17.alpha.,21-dihydroxy-16.alpha.-methylpregnane-3,11,20-trione 21-acetate, 4-bromo-17.alpha.,21-dihydroxy-16.alpha.-methylpregnane-3,11,20-trione, 3,20-bissemicarbazido-17.alpha.,21-dihydroxy 16.alpha.-methyl-4-pregnene-3,11,20-trione, 3,20-bissemocarbazido-11.beta.,17.alpha.,21-trihydroxy-16.alpha.-methyl-4-pregnene-3,20-dione, 11.beta.,17.alpha.,21-trihydroxy-16.alpha.-methyl-4-pregnene-3,20-dione, 6,16.alpha.-dimethyl-11.beta.,17.alpha.,21 -trihydroxy-2'-phenyl[3,2-c]pyrazolo-4,6-pregnadien-20-one (IV), IV 21-acetate (m. 225-6.degree.), 6,16.alpha.-dimethyl- 11.beta.,17.alpha.,21 -trihydroxy[3,2-c]pyrazolo-4,6-pregnadiene-20-one.

IT Steroids
(D-galactopyranuronosides)

IT 5.beta.-Pregn-15-ene-11,20-dione, 3.alpha.,17-dihydroxy-16-methyl-, mixt. with 3.alpha.,17-dihydroxy-16-methylene-5.beta.-pregnane-11,20-dione
5.beta.-Pregnane-11,20-dione, 17,16.alpha.-(azomethylene)-3.alpha.-hydroxy-, acetate
5.beta.-Pregnane-11,20-dione, 3.alpha.,17-dihydroxy-16-methylene-, mixt. with 3.alpha.,17-dihydroxy-16-methyl-5.beta.-pregn-15-ene-11,20-dione
Dispiro[cyclopenta[7,8]phenanthro[2,3-c]pyrazole-1(2H),4'-[1,3]dioxolane-5',4''-[1,3]dioxolan]-11-ol, 3,3a,3b,7,10,10a,10b,11,12a-decahydro-2,5,10a,12a-tetramethyl-7-phenyl-
Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, sodium salt, .beta.-D-
Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D-
Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-6,16.alpha.-dimethyl-3,20-di-oxopregna-4,6-dien-21-yl, sodium salt, .beta.-D-
Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-6.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, sodium salt, .beta.-D-
Galactopyranosiduronic acid, 6.alpha.-fluoro-11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, sodium salt, .beta.-D-
Galactopyranosiduronic acid, 9.alpha.-fluoro-11.beta.,17-dihydroxy-16.alpha.-methyl-3,-20-dioxopregna-1,4-dien-21-yl, sodium salt, .beta.-D-
Galactopyranosiduronic acid, 9.alpha.-fluoro-11.beta.,17-dihydroxy-16.beta.-methyl-3,-20-dioxopregna-1,4-dien-21-yl, sodium salt, .beta.-D-
Galactopyranosiduronic acid, {(1,2,3,3a,3b,7,10,10a,10b,11,12,12a-dodecahydro-1,11-dihydroxy-2,5,10a,12a-tetramethylcyclopenta[7,8]phenanthro-[2,3-c]pyrazol-1-yl)carbonyl]methyl, methyl ester, 2,3,4-triacetate, .beta.-D-
Ketone, 1,2,3,3a,3b,7,10,10a,10b,11,12,12a-dodecahydro-1,11-dihydroxy-2,5,10a,12a-tetramethyl-7-phenylcyclopenta[7,8]phenanthro[2,3-c]pyrazol-1-yl hydroxymethyl, acetate (ester)
Naphth[2',1':4,5]indeno[1,2-c]pyrazol-5(2H)-one, 6b-acetyl-1,3,4,4a,4b,6,6a,6b,9,9a,10,10a,10b,11,12,12a-hexadecahydro-2-hydroxy-4a,6a-dimethyl-, acetate (ester)
Pregn-4-ene-3,20-dione, 21-(.beta.-D-glucopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, methyl ester, 2',3',4'-triacetate
Pregn-4-ene-3,20-dione, 21-(.beta.-D-glucopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, sodium salt
Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-, sodium salt
Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, sodium salt
Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-6.alpha.-methyl-, sodium salt
Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-glucopyranuronosyloxy)-11.beta.,17-dihydroxy-, methyl ester, 2',3',4'-triacetate

Pregna-1,4-diene-3,20-dione, 9.alpha.-fluoro-21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,16.alpha.,17-trihydroxy-, cyclic 16,17-acetal with acetone
Pregna-1,4-diene-3,20-dione, 9.alpha.-fluoro-21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, sodium salt
Pregna-4,6-dieno[3,2-c]pyrazol-11.beta.-ol, 6,16.alpha.-dimethyl-17,20:20,21-bis(methylenedioxy)-2'-phenyl-
Pregna-4,6-dieno[3,2-c]pyrazol-20-one, 11.beta.,17,21-trihydroxy-6,16.alpha.-dimethyl-
Pregna-4,6-dieno[3,2-c]pyrazol-20-one, 11.beta.,17,21-trihydroxy-6,16.alpha.-dimethyl-2'-phenyl-
Pregna-4,6-dieno[3,2-c]pyrazol-20-one, 11.beta.,17,21-trihydroxy-6,16.alpha.-dimethyl-2'-phenyl-, 21-acetate
Pregna-4,6-dieno[3,2-c]pyrazol-20-one, 21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-6,16.alpha.-dimethyl-, methyl ester, 2',3',4'-triacetate

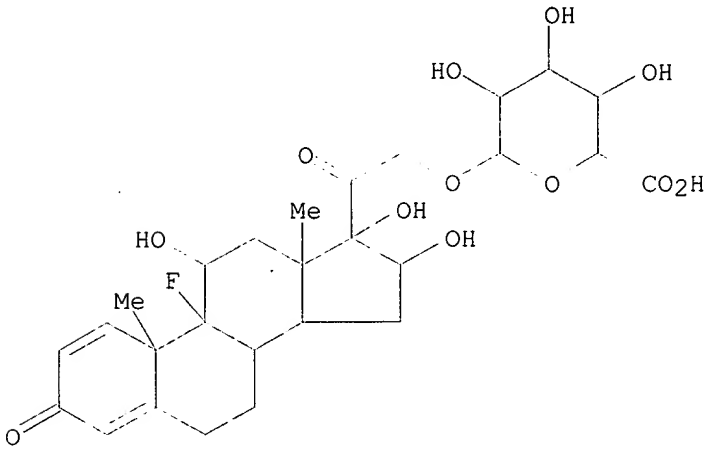
IT 802-82-4, 5.beta.-Pregnane-11,20-dione, 16.alpha.,17-epoxy-3.alpha.-hydroxy-16-methyl- 803-09-8, 5.beta.-Pregnane-11,20-dione, 3.alpha.,17-dihydroxy-16.beta.-methyl- 978-83-6, 5.beta.-Pregnane-11,20-dione, 3.alpha.,17-dihydroxy-16.alpha.-methyl- 983-48-2, 5.beta.-Pregn-16-ene-11,20-dione, 3.alpha.-hydroxy-16-methyl-, acetate 1058-04-4, Pregna-1,4-diene-3,11,20-trione, 17,21-dihydroxy-16.alpha.-methyl-, 21-acetate 1247-42-3, Pregna-1,4-diene-3,11,20-trione, 17,21-dihydroxy-16.beta.-methyl- 1253-36-7, 5.beta.-Pregnane-3,11,20-trione, 17,21-dihydroxy-16.beta.-methyl-, 21-acetate 1255-27-2, 5.beta.-Pregnane-3,11,20-trione, 4-bromo-17,21-dihydroxy-16.beta.-methyl-, 21-acetate 4107-07-7, 5.beta.-Pregnane-3,11,20-trione, 2,4-dibromo-17,21-dihydroxy-16.beta.-methyl-, 21-acetate **4107-13-5**, Galactopyranosiduronic acid, 9.alpha.-fluoro-11.beta.,16.alpha.,17-trihydroxy-3,20-dioxopregna-1,4-dien-21-yl, .beta.-D- **4107-13-5**, Pregna-1,4-diene-3,20-dione, 9.alpha.-fluoro-21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,16.alpha.,17-trihydroxy- 4107-14-6, Galactopyranosiduronic acid, 9.alpha.-fluoro-11.beta.,16.alpha.,17-trihydroxy-3,20-dioxopregna-1,4-dien-21-yl, cyclic 16,17-acetal with acetone, .beta.-D- **4157-49-7**, Pregna-1,4-diene-3,20-dione, 9.alpha.-fluoro-21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-16.beta.-methyl-, sodium salt **4157-50-0**, Pregna-1,4-diene-3,20-dione, 6.alpha.-fluoro-21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-, sodium salt 4157-51-1, Pregna-4,6-diene-3,20-dione, 21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-6,16.alpha.-dimethyl- **4157-53-3**, Pregna-1,4-diene-3,20-dione, 9.alpha.-fluoro-21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, methyl ester, 2',3',4'-triacetate **4157-53-3**, Galactopyranosiduronic acid, 9.alpha.-fluoro-11.beta.,17-dihydroxy-16.alpha.-methyl-3,-20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- 4183-48-6, 5.beta.-Pregnane-11,20-dione, 3.alpha.-hydroxy-16.alpha.-methyl-, acetate 4183-49-7, 5.beta.-Pregnane-11,20-dione, 21-bromo-3.alpha.,17-dihydroxy-16.alpha.-methyl- **4193-32-2**, Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- **4206-90-0**, Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, sodium salt, .beta.-D- 4466-28-8, Ketone, 1,2,3,3a,3b,7,10,10a,10b,11,12,12a-dodecahydro-1,11-dihydroxy-2,5,10a,12a-tetramethylcyclopenta[7,8]phenanthro[2,3-c]pyrazol-1-yl hydroxymethyl 4906-84-7, Ketone, 1,2,3,3a,3b,7,10,10a,10b,11,12,12a-dodecahydro-1,11-dihydroxy-2,5,10a,12a-tetramethyl-7-phenylcyclopenta[7,8]phenanthro[2,3-c]pyrazol-1-yl hydroxymethyl 5059-58-5, Pregna-4,6-dien-3-one, 11.beta.-hydroxy-2-(hydroxymethylene)-6,16.alpha.-dimethyl-17,20:20,21-bis(methylenedioxy)- **5132-78-5**, Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, methyl ester, 2',3',4'-triacetate **5132-78-5**,

Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- 34614-33-0, 5.beta.-Pregnane-3,11,20-trione, 4-bromo-17,21-dihydroxy-16.alpha.-methyl-, 21-acetate **107079-42-5**, Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, sodium salt, .beta.-D-
(prepn. of)

IT **4107-13-5**, Galactopyranosiduronic acid, 9.alpha.-fluoro-11.beta.,16.alpha.,17-trihydroxy-3,20-dioxopregna-1,4-dien-21-yl, .beta.-D- **4157-49-7**, Pregna-1,4-diene-3,20-dione, 9.alpha.-fluoro-21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-16.beta.-methyl-, sodium salt **4157-50-0**, Pregna-1,4-diene-3,20-dione, 6.alpha.-fluoro-21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-, sodium salt **4157-53-3**, Pregna-1,4-diene-3,20-dione, 9.alpha.-fluoro-21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, methyl ester, 2',3',4'-triacetate **4193-32-2**, Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- **4206-90-0**, Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, sodium salt, .beta.-D- **5132-78-5**, Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-galactopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, methyl ester, 2',3',4'-triacetate **107079-42-5**, Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, sodium salt, .beta.-D-
(prepn. of)

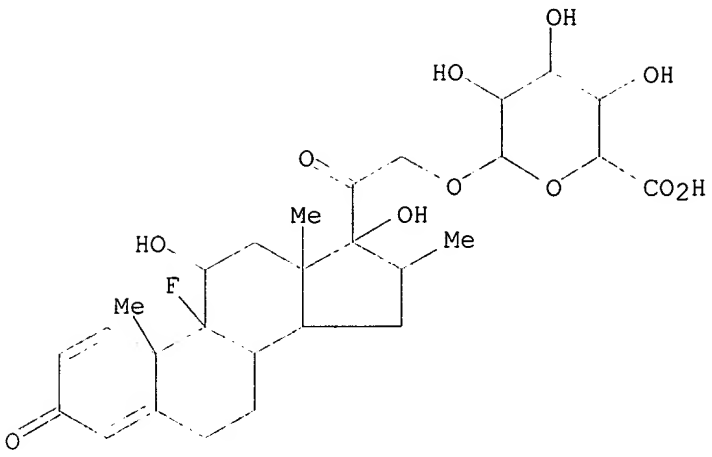
RN 4107-13-5 HCAPLUS

CN Galactopyranosiduronic acid, 9.alpha.-fluoro-11.beta.,16.alpha.,17-trihydroxy-3,20-dioxopregna-1,4-dien-21-yl, .beta.-D- (8CI) (CA INDEX NAME)



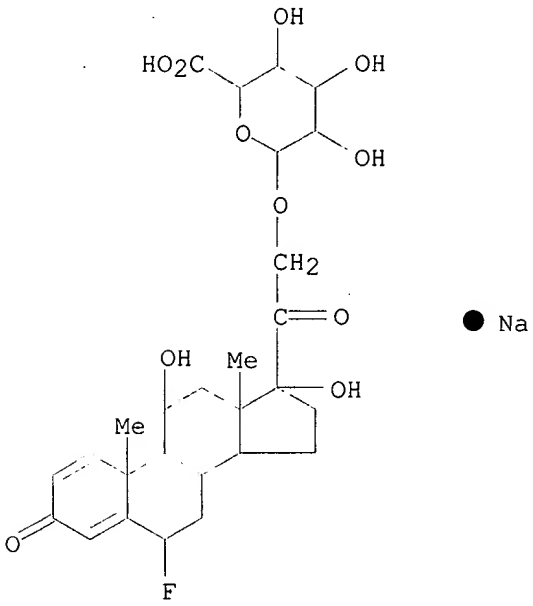
RN 4157-49-7 HCAPLUS

CN .beta.-D-Galactopyranosiduronic acid, (11.beta.,16.beta.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, monosodium salt (9CI) (CA INDEX NAME)



● Na

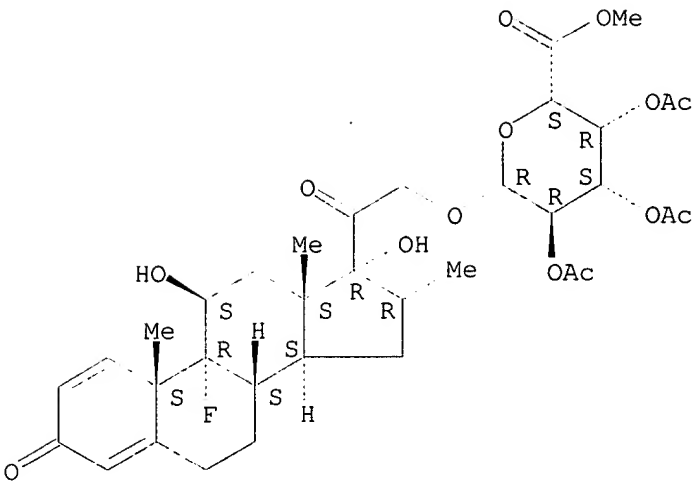
RN 4157-50-0 HCAPLUS
CN .beta.-D-Galactopyranosiduronic acid, (6.alpha.,11.beta.)-6-fluoro-11,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, monosodium salt (9CI) (CA INDEX NAME)



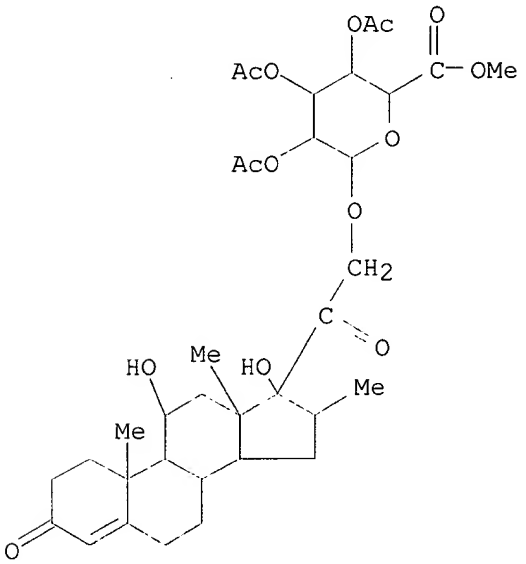
● Na

RN 4157-53-3 HCAPLUS
CN .beta.-D-Galactopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate (9CI) (CA INDEX NAME)

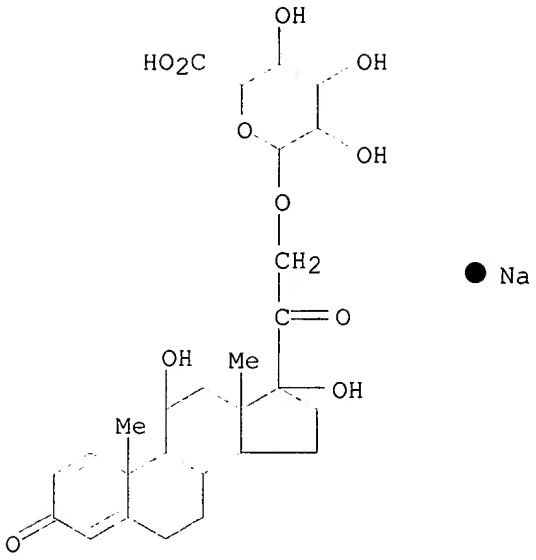
Absolute stereochemistry.



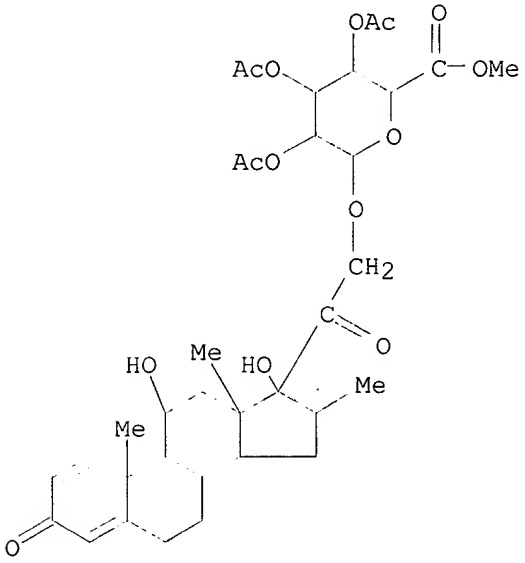
RN 4193-32-2 HCAPLUS
CN Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- (8CI) (CA INDEX NAME)



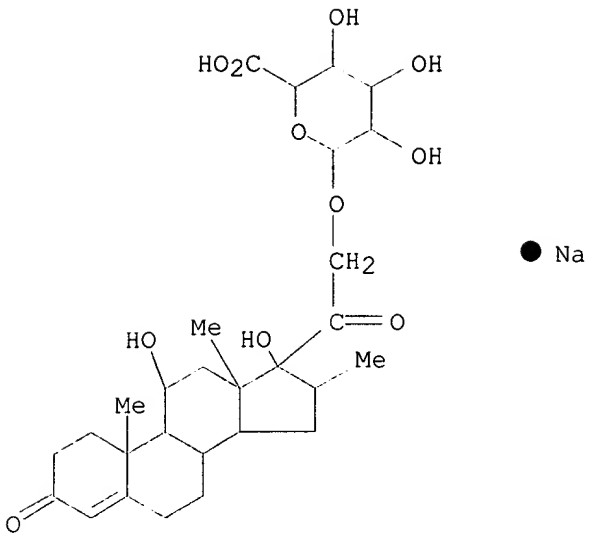
RN 4206-90-0 HCAPLUS
CN Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, sodium salt, .beta.-D- (8CI) (CA INDEX NAME)



RN 5132-78-5 HCAPLUS
CN Galactopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- (8CI) (CA INDEX NAME)

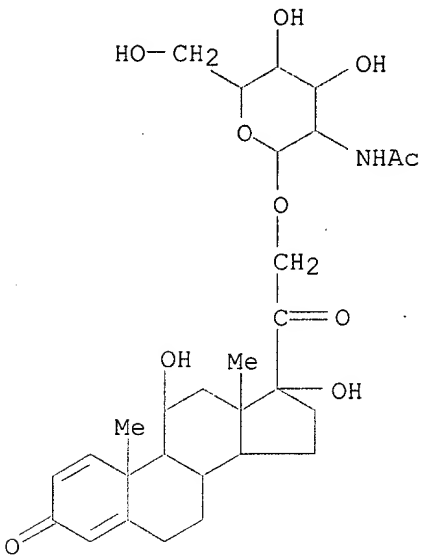


RN 107079-42-5 HCAPLUS
CN Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, sodium salt, .beta.-D- (7CI) (CA INDEX NAME)

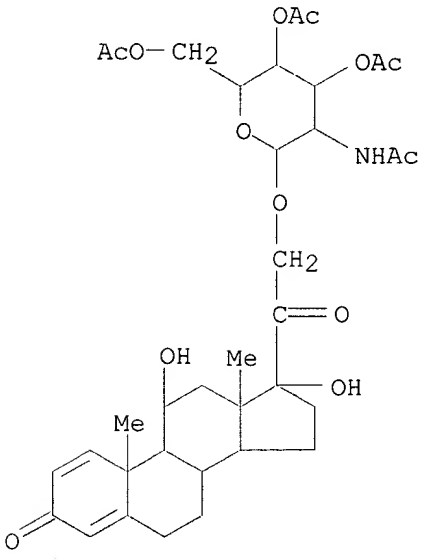


L103 ANSWER 22 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1965:3285 HCAPLUS
DN 62:3285
OREF 62:626h,627a
TI Approach to an improved **antiinflammatory** steroid. Synthesis of 11.beta.,17-dihydroxy-3,20-dioxo-1,4-pregnadien-21-yl 2-acetamido-2-deoxy-.beta.-D-glucopyranoside
AU Hirschmann, Ralph; Strachan, Robert G.; Buchschacher, P.; Sarett, L. H.; Steelman, S. L.; Silber, R.
CS Merck & Co. Inc., Rahway, NJ
SO J. Am. Chem. Soc. (**1964**), 86(18), 3903-4
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
CC 43 (Carbohydrates)
AB Prednisolone (I) condensed with 2-acetamido-3,4,6-tri-O-acetyl-2-deoxy-.alpha.-D-glucopyranosyl chloride yielded 11.beta.,17-dihydroxy-3,20-dioxo-1,4-pregnadien-21-yl 2-acetamido-3,4,6-tri-O-acetyl-2-deoxy-.beta.-D-glucopyranoside, which methanolyzed gave the title compd. (II). Incubation of II with .beta.-N-acetylglucosaminidase gave the theoretical amt. of I; the hydrolysis was inhibited by 2-acetamido-2-deoxy-D-gluconolactone. II showed **antiinflammatory** effects.
IT **Inflammation**
Inflammation
(inhibitors of, 21-[(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11.beta.,17-dihydroxypregna-1,4-diene-3,20-dione as)
IT Spectra, visible and ultraviolet
(of 21-[(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11.beta.,17-dihydroxypregna-1,4-diene-3,20-dione and its triacetate)
IT Glucopyranoside, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl 2-acetamido-2-deoxy-, triacetate
IT **3024-64-4**, Pregna-1,4-diene-3,20-dione, 21-[(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11.beta.,17-dihydroxy- **3056-39-1**, Pregna-1,4-diene-3,20-dione, 21-[(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11.beta.,17-dihydroxy-, 3',4',6'-triacetate
(prepn. of)
IT **3024-64-4**, Pregna-1,4-diene-3,20-dione, 21-[(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11.beta.,17-dihydroxy- **3056-39-1**, Pregna-1,4-diene-3,20-dione, 21-[(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11.beta.,17-dihydroxy-, 3',4',6'-triacetate

(prepn. of)
RN 3024-64-4 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11.beta.,17-dihydroxy- (7CI, 8CI) (CA INDEX NAME)



RN 3056-39-1 HCAPLUS
CN Pregna-1,4-diene-3,20-dione, 21-[(2-acetamido-2-deoxy-.beta.-D-glucopyranosyl)oxy]-11.beta.,17-dihydroxy-, 3',4',6'-triacetate (7CI, 8CI) (CA INDEX NAME)



L103 ANSWER 23 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1964:91214 HCAPLUS
DN 60:91214
OREF 60:15974e-g
TI **Antiinflammatory** steroid compositions
IN Sarett, Lewis H.; Strachan, Robert G.; Hirschmann, Ralph

PA Merck & Co., Inc.
SO 25 pp.
DT Patent
LA Unavailable
CC 43 (Carbohydrates)

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	BE 623144		19630403	BE		<--
	FR M2271			FR		
	GB 1015396			GB		
	US 3185682		1965	US		<--
PRAI	US		19611004 <--			

AB The 21-glucuronides of 11,17-dihydroxy-20-oxo-21-hydroxy ring A-unsatd. steroids of the pregnane series are conveniently prepd. by treating pregnane, at an elevated temp., with lower alkyl tri-O-acyl-.alpha.-D-bromoglucuronates in an inert solvent such as C6H6 in the presence of Ag2CO3. Treatment of the resulting 21-(tri-O-acyl-.alpha.-D-glucuronide) esters with an aq.-alc. soln. of an alkoxide, Ba(OH)2, or with ion exchange resin (alkali metal form), yields the corresponding salt of the 21-glucuronide of the steroid. Ultraviolet absorption spectra were as follows: 11.beta.,17.alpha.-dihydroxy-1,4-pregnadiene-3,20-dion-21-yl tri-O-acetyl-.beta.-D-glucuronide Me ester, .lambda. 243 m.mu. (.vepsiln. 197); 16.alpha.-methyl-11.beta., 17.alpha.-dihydroxy-4-pregnene-3,20-dion-21-yl tri-O-acetyl-.beta.-D-glucuronide Me ester, .lambda. 240 m.mu. (.vepsiln. .apprx.200); 11.beta., 17.alpha.-dihydroxy-1,4-pregnadiene-3,20-dion-21-yl .beta.-D-glucuronide Na salt, .lambda.. 246 m.mu. (.vepsiln. 167).

IT Steroids
(**inflammation** inhibition by)

IT **Inflammation**
Inflammation
(inhibitors of, steroids as)

IT Glucopyranosiduronic acid, 9-fluoro-11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D-
Glucopyranosiduronic acid, [(1,2,3,3a,3b,7,10,10a,10b,11,12,12a-dodecahydro-1.alpha.,11.beta.-dihydroxy-2.alpha.,5-dimethylcyclopenta[7,8]phenanthro[2,3-c]pyrazol-1-yl)carbonyl]methyl, methyl ester,2,3,4-triacetate
Glucosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, sodium salt
Glucosiduronic acid, 11.beta.17-dihydroxy-6.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, sodium salt
Glucosiduronic acid, 6.alpha.-fluoro-11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, sodium salt
Glucosiduronic acid, 9-fluoro-11.beta.-hydroxy-16.alpha.,17-(isopropylidenedioxy)-3,20-dioxopregna-1,4-dien-21-yl
Glucosiduronic acid, [(1,2,3,3a,3b,7,10,10a,10b,11,12,12a-dodecahydro-1,11-dihydroxy-2,5-dimethylcyclopenta[7,8]phenanthro[2,3-c]-pyrazol-1-yl)carbonyl]methyl, sodium salt
Glucosiduronic acid, [(1,2,3,3a,3b,7,10,10a,10b,11,12,12a-dodecahydro-1.alpha.,11.beta.-dihydroxy-2.alpha.,5-dimethyl-7-phenylcyclopenta[7,8]phenanthro[2,3-c]pyrazol-1-yl)carbonyl]-methyl, sodium salt
Pregn-4-ene-3,20-dione, 21-(glucuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, sodium salt
Pregn-4-ene-3,20-dione, 21-(.beta.-D-glucopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, methyl ester, 2',3',4'-triacetate
Pregna-1,4-diene-3,20-dione, 21-(glucuronosyloxy)-11.beta.,17-dihydroxy-, sodium salt
Pregna-1,4-diene-3,20-dione, 21-(glucuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, sodium salt
Pregna-1,4-diene-3,20-dione, 21-(glucuronosyloxy)-11.beta.,17-dihydroxy-

6.alpha.-methyl-, sodium salt
Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-glucopyranuronosyloxy)-11.beta.,17-dihydroxy-, methyl ester, 2',3',4'-triacetate
Pregna-1,4-diene-3,20-dione, 21-(.beta.-D-glucopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, methyl ester, 2',3',4'-triacetate
Pregna-1,4-diene-3,20-dione, 6.alpha.-fluoro-21-(glucuronosyloxy)-11.beta.,17-dihydroxy-, sodium salt
Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(glucuronosyloxy)-11.beta.,16.alpha.,17-trihydroxy-, cyclic 16,17-acetal with acetone
Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(glucuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, sodium salt
Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(glucuronosyloxy)-11.beta.,17-dihydroxy-16.beta.-methyl-, sodium salt
Pregna-1,4-diene-3,20-dione, 9-fluoro-21-(.beta.-D-glucopyranuronosyloxy)-11.beta.,17-dihydroxy-16.alpha.-methyl-, methyl ester, triacetate
Pregna-4,6-diene-3,20-dione, 21-(glucuronosyloxy)-11.beta.,17-dihydroxy-6,16.alpha.-dimethyl-, sodium salt
Pregna-4,6-dieno[3,2-c]pyrazol-20-one, 21-(glucosiduronosyloxy)-11.beta.,17.alpha.-dihydroxy-6,16.alpha.-dimethyl-, sodium salt
Pregna-4,6-dieno[3,2-c]pyrazol-20-one, 21-(glucosiduronosyloxy)-11.beta.,17.alpha.-dihydroxy-6,16.alpha.-dimethyl-2'-phenyl-, sodium salt
Pregna-4,6-dieno[3,2-c]pyrazol-20-one, 21-(.beta.-D-glucopyranuronosyloxy)-11.beta.,17.alpha.-dihydroxy-6,16.alpha.-dimethyl-, methyl ester, triacetate

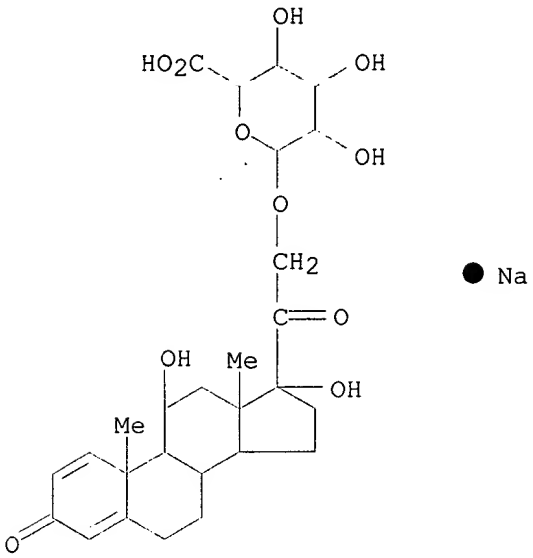
IT Cyolopenta[7,8]phenanthro[2,3-c]pyrazole
(steroid derivs.)

IT **103365-98-6**, Glucosiduronic acid, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, sodium salt **105088-07-1**, Glucosiduronic acid, 9-fluoro-11.beta.,17-dihydroxy-16.beta.-methyl-3-20-dioxopregna-1,4-dien-21-yl, sodium salt **105088-08-2**, Glucosiduronic acid, 9-fluoro-11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, sodium salt **105477-23-4**, Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- **105477-24-5**, Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- **105560-80-3**, Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- 106819-74-3, Glucosiduronic acid, 11.beta.,17-dihydroxy-6,16.alpha.-dimethyl-3,20-dioxopregna-4,6-dien-21-yl, sodium salt **107079-42-5**, Glucosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, sodium salt
(prepn. of)

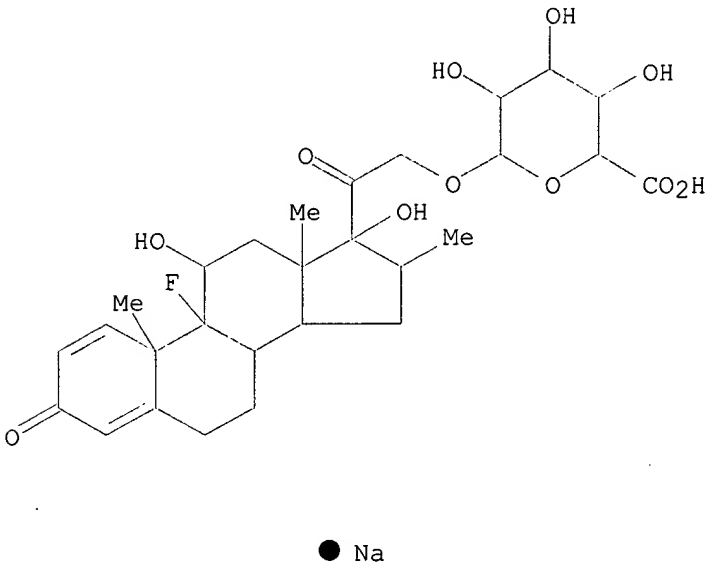
IT 221-46-5, 1H-Naphth[2',1':4,5]indeno[1,2-d][1,3]dioxole
(steroid derivs.)

IT **103365-98-6**, Glucosiduronic acid, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, sodium salt **105088-07-1**, Glucosiduronic acid, 9-fluoro-11.beta.,17-dihydroxy-16.beta.-methyl-3-20-dioxopregna-1,4-dien-21-yl, sodium salt **105088-08-2**, Glucosiduronic acid, 9-fluoro-11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, sodium salt **105477-23-4**, Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- **105477-24-5**, Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- **105560-80-3**, Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- **107079-42-5**, Glucosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, sodium salt

(prepn. of)
RN 103365-98-6 HCAPLUS
CN Glucosiduronic acid, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, sodium salt (7CI) (CA INDEX NAME)

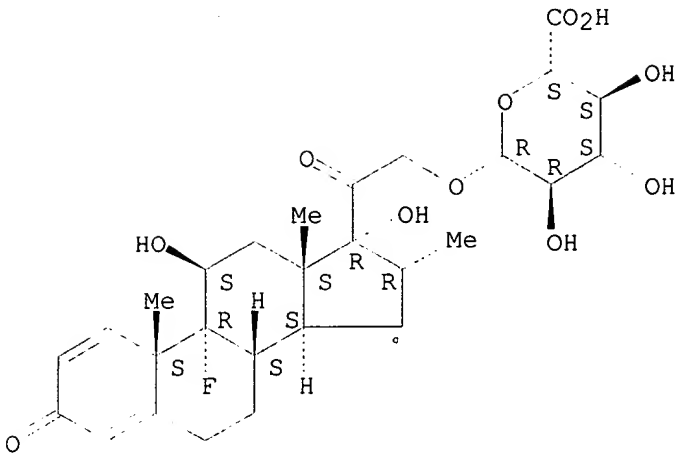


RN 105088-07-1 HCAPLUS
CN Glucosiduronic acid, 9-fluoro-11.beta.,17-dihydroxy-16.beta.-methyl-3,20-dioxopregna-1,4-dien-21-yl, sodium salt (7CI) (CA INDEX NAME)

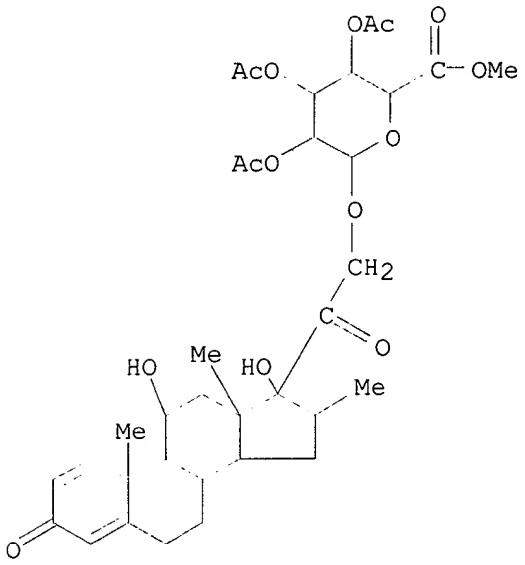


RN 105088-08-2 HCAPLUS
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.,16.alpha.)-9-fluoro-11,17-dihydroxy-16-methyl-3,20-dioxopregna-1,4-dien-21-yl, monosodium salt (9CI) (CA INDEX NAME)

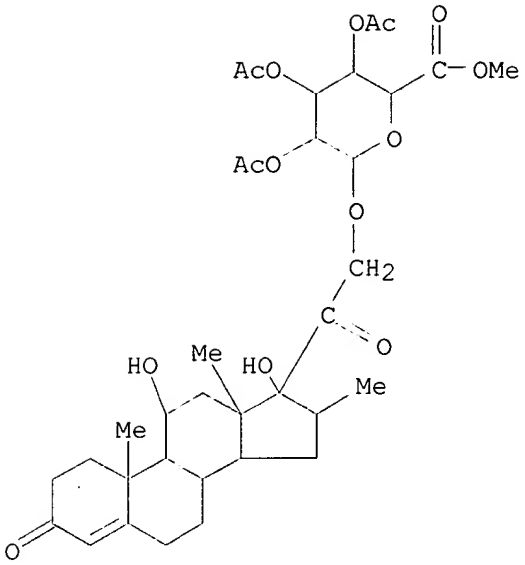
Absolute stereochemistry.



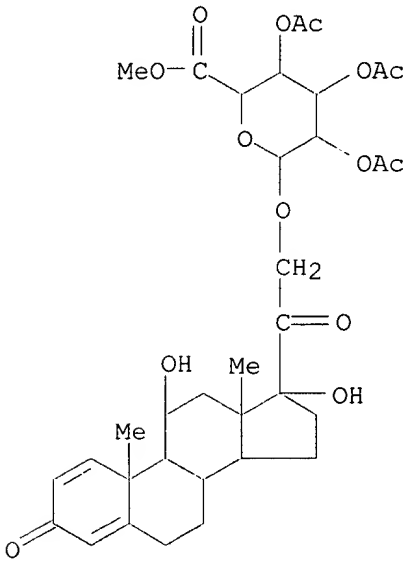
RN 105477-23-4 HCAPLUS
CN Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- (7CI) (CA INDEX NAME)



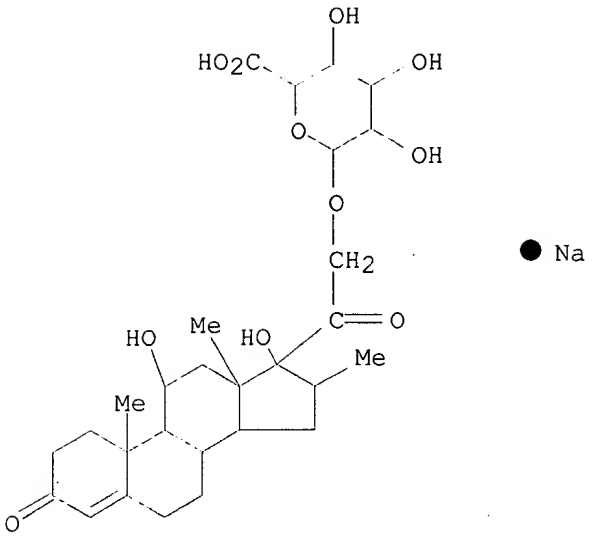
RN 105477-24-5 HCAPLUS
CN Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- (7CI) (CA INDEX NAME)



RN 105560-80-3 HCAPLUS
CN Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl, methyl ester, 2,3,4-triacetate, .beta.-D- (7CI) (CA INDEX NAME)



RN 107079-42-5 HCAPLUS
CN Glucopyranosiduronic acid, 11.beta.,17-dihydroxy-16.alpha.-methyl-3,20-dioxopregn-4-en-21-yl, sodium salt, .beta.-D- (7CI) (CA INDEX NAME)



L103 ANSWER 24 OF 25 HCAPLUS COPYRIGHT 2002 ACS
AN 1963:469413 HCAPLUS
DN 59:69413
OREF 59:12912b-c
TI Steroid 21-O-glucosyluronamides
IN Nitta, Yoshihiro; Takamura, Keiichi; Shindo, Minoru
PA Chugai Pharmaceutical Co., Ltd.
SO 2 pp.
DT Patent
LA Unavailable
CC 43 (Carbohydrates)

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 38006774		19630522	JP	19600506 <--

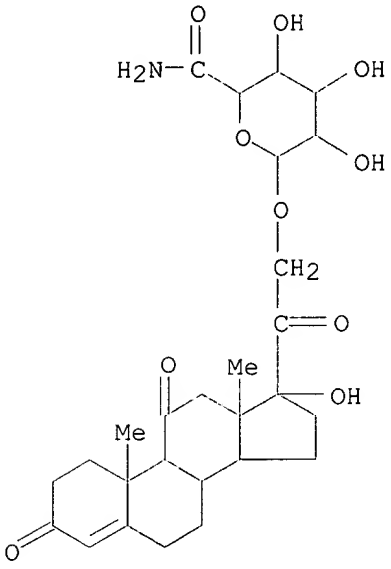
AB A mixt. of 2.2 g. Me pregn-4-ene-17.alpha.,21-diol-3,20-dione 21-O(2,3,4-tri-O-acetyl-D-glucosyl)uronate and 100 cc. NH3-satd MeOH at -5 to 0.degree. is kept overnight, the soln. concd. to 1/3 vol., kept overnight again, the resulting ppt. dissolved in 300 cc. MeOH, concd. to 1/3 vol., and treated with C to give 1.3 g. pregn-4-ene-17.alpha.,21-diol-3,20-dione 21-O-glucosyluronamide, m. 242.5-43.degree. (decompn.). Similarly prepd. are pregn-4-ene-17.alpha.,21-diol-3,11,20-trione 21-O-glucosyluronamide [m. 254-5.degree. (decompn.)], pregn-4-ene-11.beta.,17.alpha.,21-triol-3,20-dione 21-O-glucosyluronamide (m. 259-60.degree.), pregna-1,4-diene-17.alpha.,21-diol-3,11,20-trione 21-O-glucosyluronamide (m. 257-8.degree.), and pregna-1,4-diene-11.beta.,17.alpha.,21-triol-3,20-dione 21-O-glucosyluronamide [m. 253-4.degree. (decompn.)]. The compds. are useful as **antirheumatic** drugs.

IT Steroids
(21-(glucuronamidosyloxy) derivs.)

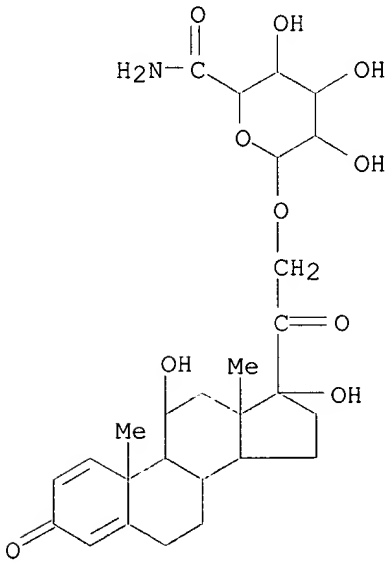
IT Glucosiduronamide, 17-hydroxy-3,11,20-trioxopregnal 1,4-dien-21-yl
Glucosiduronamide, 2-(dimethylamino)ethyl N,N-dimethyl-21-yl
Pregn-4-ene-3,11,20-trione, 21-(glucuronamidosyloxy)-17-hydroxy-
Pregn-4-ene-3,20-dione, 21-(glucuronamidosyloxy)-11.beta.,17-dihydroxy-
Pregn-4-ene-3,20-dione, 21-(glucuronamidosyloxy)-17-hydroxy-
Pregna-1,4-diene-3,11,20-trione, 21-(glucuronamidosyloxy)-17-hydroxy-
Pregna-1,4-diene-3,20-dione, 21-(glucuronamidosyloxy)-11.beta.,17-dihydroxy-

IT **104644-57-7**, Glucosiduronamide, 17-hydroxy-3,11,20-trioxopregn-4-en-21-yl **104644-58-8**, Glucosiduronamide, 11.beta.,17-dihydroxy-

3,20-dioxopregna-1,4 dien-21-yl 106766-25-0, Glucosiduronamide, 17-hydroxy-3,20-dioxopregn-4-en-21-yl
(prepn. of)
IT **104644-57-7**, Glucosiduronamide, 17-hydroxy-3,11,20-trioxopregn-4-en-21-yl **104644-58-8**, Glucosiduronamide, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4 dien-21-yl
(prepn. of)
RN 104644-57-7 HCAPLUS
CN Glucosiduronamide, 17-hydroxy-3,11,20-trioxopregn-4-en-21-yl (7CI) (CA INDEX NAME)



RN 104644-58-8 HCAPLUS
CN Glucosiduronamide, 11.beta.,17-dihydroxy-3,20-dioxopregna-1,4-dien-21-yl (7CI) (CA INDEX NAME)



L103 ANSWER 25 OF 25 HCAPLUS COPYRIGHT 2002 ACS

AN 1961:23889 HCAPLUS
DN 55:23889
OREF 55:**4748e**
TI **Allergic** reactions induced by simple chemical compounds. VI
AU Ishikawa, Mitsuteru
CS Jikeikai School Med., Tokyo
SO Jikeikai Med. J. (1958), 5, 96-122
DT Journal
LA Unavailable
CC 11G (Biological Chemistry: Pathology)
AB A review with 93 references.

=> fil hcaold
FILE 'HCAOLD' ENTERED AT 14:32:26 ON 15 DEC 2002
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FILE LAST UPDATED: 01 May 1997 (19970501/UP)

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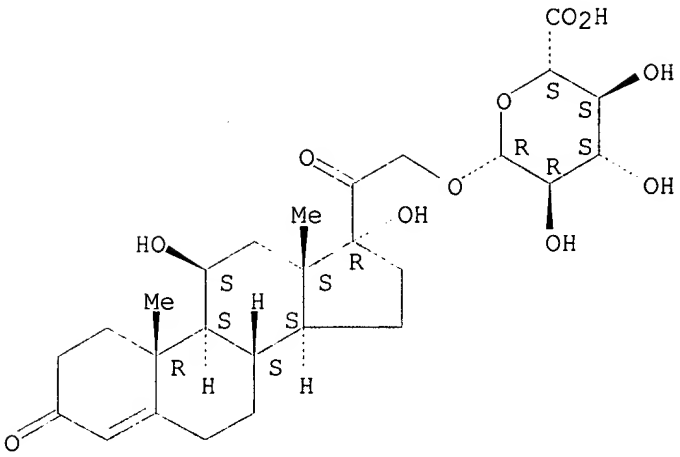
This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> d all hitstr l105

L105 ANSWER 1 OF 1 HCAOLD COPYRIGHT 2002 ACS
AN CA55:4748e CAOLD
TI 17-hydroxy corticosteroids in kidney diseases
AU Karl, H. J.; Forbica, M.
TI **allergic** reactions induced by simple chem. compds. - (VI)
AU **Ishikawa, Mitsuteru**
IT **7301-54-4**
IT **7301-54-4**
RN 7301-54-4 HCAOLD
CN .beta.-D-Glucopyranosiduronic acid, (11.beta.)-11,17-dihydroxy-3,20-dioxopregn-4-en-21-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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=> d his

     (FILE 'HOME' ENTERED AT 13:09:05 ON 15 DEC 2002)
               SET COST OFF

     FILE 'HCAPLUS' ENTERED AT 13:09:20 ON 15 DEC 2002
               E STRAKAN/PA,CS
L1          11 S E3-E10
               E HOLICK M/AU
L2         475 S E3-E11
               E RAMANATHAN H/AU
L3          22 S E3,E4
L4           6 S L1 AND L2,L3
L5          22 S L1-L3 AND STEROID?/SC,SX
L6           4 S L5 NOT ?VITAMIN?
               E US2001-41676/AP,PRN
               E US2001041676/PN
L7           1 S E3
L8           1 S L7 AND L1-L7
               SEL RN

     FILE 'REGISTRY' ENTERED AT 13:13:29 ON 15 DEC 2002
L9          13 S E1-E13
L10          5 S L9 AND NR>=5
L11          4 S L10 NOT C24H31FO6
L12            STR
L13         50 S L12 CSS
L14       5950 S L12 CSS FUL
               SAV L14 FONDA759/A
L15            STR L12
L16       3653 S L15 CSS FUL SUB=L14
               SAV L16 FONDA759A/A
L17        227 S L16 AND OC5/ES
L18          3 S L16 AND OCOC2-OC5/ES
L19        131 S L17 AND 1/NC
L20         42 S L19 AND (N OR S OR P OR SI)/ELS
L21         17 S L20 AND (C41H57NO8 OR C37H54FNO12S OR C56H59NO19 OR C43H66FNO
L22         25 S L20 NOT L21
L23         89 S L19 NOT L20
L24         19 S L23 AND (C30H39FO8 OR C28H36O8 OR C26H37FO6 OR C26H38O6 OR C2
L25         70 S L23 NOT L24
L26         98 S L18,L22,L25
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L27          95 S L16 AND OC4/ES
L28          44 S L27 AND NC>=2
L29          51 S L27 NOT L28
L30          96 S L17 NOT L19
L31           5 S L30 AND (H3N OR BA/ELS OR H2O)
L32          23 S L30 AND NA/ELS
L33          21 S L32 NOT (MXS/CI OR C29H38O8)
L34         124 S L26,L31,L33
L35        3344 S L16 NOT L17-L34
               STR
L37           2 S L36 FUL SUB=L35
               STR L36
L39           0 S L38 FUL SUB=L35
               STR L36
L41           1 S L40 FUL SUB=L35
               STR L36
L43           0 S L42 FUL SUB=L35
L44           3 S L37,L39,L41,L43
               SAV L44 FONDA759B/A
               SAV L34 FONDA759C/A

    FILE 'HCAOLD' ENTERED AT 14:01:06 ON 15 DEC 2002
L45          17 S L34
L46           0 S L11
               SEL AN L45
               EDIT E14-E30
               EDIT E14-E30 /AN /OREF

    FILE 'HCAPLUS' ENTERED AT 14:02:31 ON 15 DEC 2002
L47          28 S E14-E30
               SEL DN 3 5 7 9 11 14 17 19 21 22 24 26
L48          12 S L47 AND E31-E42
               SEL DN 8
L49           1 S E43
L50          11 S L48 NOT L49
L51          17 S L47 NOT L50
L52           6 S L11
L53          50 S L34
L54          50 S L52,L53
L55           1 S L54 AND L1-L3
L56          50 S L54 AND (PY<=2000 OR PRY<=2000 OR AY<=2000)
L57          49 S L54 NOT L55
L58           7 S (L11 OR L34)(L)(THU OR BAC OR PAC OR DGN OR AGR OR COS OR DMA
L59          17 S L54 AND (?INFLAM? OR IMMUN?(L)RESPON? OR ADRENAL(L)INSUFF? OR
               E ADREN/CT
L60        2998 S E10-E21
               E E9+ALL
L61       29468 S E3+NT
               E E8+ALL
L62        6512 S E3+NT
               E ADDISON/CT
L63         460 S E5
               E E5+ALL
L64         460 S E5+NT
               E CONGENITAL HYPERPLASIA/CT
               E E4+ALL
L65         341 S E2
               E INFLAMMATION/CT
L66       23441 S E3-E18
               E E3+ALL
L67       71073 S E2+NT
L68       10697 S E37+NT
               E E36+ALL
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L69       47496 S E4,E5,E3+NT
                E IMMUNE SYSTEM/CT
                E E4+ALL
L70        4605 S E2
                E EYE DISEASE/CT
                E E4+ALL
                E E2+ALL
L71       23320 S E3+NT
L72       56794 S E99+NT
                E BRAIN EDEMA/CT
L73           1 S E3
                E E3+ALL
L74         849 S E2
                E SPASM/CT
                E E17+ALL
                E CONVULSION/CT
L75         502 S E8
L76         379 S E9
                E E3+ALL
L77     1661565 S E OR E2+NT
                E ALLERGY/CT
L78       17012 S E3-E14
                E E3+ALL
L79       18673 S E3,E2+NT
                E E16+ALL
L80        6368 S E4+NT
L81         349 S E17+NT
                E RHEUMATISM/CT
                E E3+ALL
L82        1141 S E1
                E E2+ALL
L83       20683 S E4,E3+NT
                E NEPHROTIC/CT
                E E4+ALL
L84         709 S E2
                E SKIN DISEASE/CT
                E E4+ALL
L85       10923 S E2
L86           1 S E1
                E E2+ALL
L87       48885 S E3+NT
L88        6588 S E114+NT OR E145+NT
                E RESPIRATORY DISTRESS/CT
L89        2182 S E5-E8
                E E4+ALL
L90        3050 S E4+NT
                E IMMUNE SYSTEM/CT
                E E4+ALL
L91        4605 S E2
L92           9 S L54 AND L60-L91
                SEL DN AN 5 6
L93           7 S L92 NOT E1-E6
L94          13 S L58,L59 NOT L92
L95          20 S L55,L93,L94
L96          20 S L95 AND L54-L95
L97          30 S L54 NOT L96
L98          27 S L97 NOT L51
                SEL DN AN 3 5 8 9
L99           4 S E7-E18 AND L98
L100         24 S L96,L99
L101         13 S L51 NOT L100
L102          1 S L101 AND ALLERG?
L103         25 S L100,L102
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L104          35 S L51,L54 NOT L103
                 SAV L104 FONDA759D/A

     FILE 'HCAOLD' ENTERED AT 14:32:10 ON 15 DEC 2002
L105           1 S ALLERG?/TI AND ISHIKAWA ?/AU AND L45

     FILE 'HCAOLD' ENTERED AT 14:32:26 ON 15 DEC 2002
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